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Address editorial communications to Dr. George H. Kress at per address above. Address business and advertising communications to John Hunton.

EDITOR GEORGE H. KRESS

Committee on Publications
F. Burton Jones Vallejo 1944
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George W. Walker (Chairman) Fresno 1946
Secretary and Editor ex officio

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Advertising Representative for Northern California
L. J. FLYNN, 544 Market Street, San Francisco (DOuglas 0577)

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Leaflet Regarding Rules of Publication.—CALIFORNIA AND WESTERN MEDICINE has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this Journal write to its offices requesting a copy of this leaflet.

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EDITORIALS

FEDERAL CHILDREN'S BUREAU PLAN OF MATERNITY AND INFANT CARE FOR WIVES AND INFANTS OF MEN IN THE ARMED FORCES

California Medical Association Members Should Appreciate the Important Issues Involved.—War time is not a period favorable to expression of opinion that may be in opposition to pronouncements by governmental bureaus, since the publicity departments or spokesmen of agencies involved can always raise the cry, "Nothing must be done to impede all-out effort to win the war."

With that slogan all are in agreement, but it does not follow that those who use it are necessarily in the right when they resort to it in order to defend methods of action for which they are the special proponents. Particularly so when, if the objectives be acceptable, the slogan is used to discourage legitimate criticism of certain governmental methods of procedure.

The above statement is made because the position taken by the California Medical Association, in refusing to approve a schedule of fees for professional services to be rendered to pregnant wives of enlisted men, is quite apt to be misunderstood and misinterpreted, although the Association is in full accord with the desired objectives.

It is important that members of the California Medical Association promptly familiarize themselves with the facts relating to professional care of wives of enlisted men. Every member who may be consulted or called on to do obstetric or pediatric work for the group of prospective patients mentioned should take the time to at least scan the information contained in the comments which appeared in the June issue of CALIFORNIA AND WESTERN MEDICINE, on pages 314-317, at which time the Children's Bureau plan was brought to the official attention of the medical profession in California.

After the comments in the June number of CALIFORNIA AND WESTERN MEDICINE have been read, understanding consideration may then be given to the official and other actions that have been taken since the editorial was written.

* * *

Additional Information in Current Issue.—The story of subsequent official communications and correspondence appears in this issue under the department of the "Committee on Participation of the Medical Profession in the War Effort." (See page 79.)

As has been stated previously, the issues involved are of paramount importance to present and future medical practice and standards.

The California Medical Association through its constituted authorities, has deemed it to be to the best interests of all concerned not to accept a mandatory fee bill for certain professional services as emanating or promulgated from the Children's Bureau in Washington, D. C.

To make its point of view a matter of record, and for the further information of members of the California Medical Association, the correspondence referred to below is given space in this issue.

The eighteen items referred to are listed as follows:

- Item I.—Letter of May 24, 1943: (Letter to Los Angeles Subcommittee Concerning California Fee Schedules.)
- Item II.—Letter of June 1, 1943: (Letter to A. M. A. Secretary West Regarding Obstetric Fee Schedules.)
- Item III.—Letter of June 3, 1943: (Letter from A. M. A. Secretary West Regarding Their Files on Obstetric Fee Schedules.)
- Item IV.—Letter of June 23, 1943: (Letter from Public Health Director Halverson Concerning Proposed Obstetric Plan.)
- Item V.—Letter of June 25, 1943: (Letter from Council Chairman Gilman Requesting Information from State Board.)
- Item VI.—Resolution of June 20, 1943: (Resolution of C. M. A. Council, adopted at its meeting in San Francisco on June 20, 1943.)
- Item VII.—Resolution of June 8, 1943: (Resolution of A. M. A. House of Delegates, adopted in Chicago on June 8, 1943.)
- Item VIII.—Resolution of May 30, 1943: (Resolution of Pacific States Medical Executives' Conference, adopted at its meeting in Portland, Oregon, on May 30, 1943.)
- Item IX.—Letter of June 30, 1943: (Letter from Dr. Daily of Federal Children's Bureau to State Health Director Halverson.)
- Item X.—Letter of July 1, 1943: (Letter of Council Chairman Gilman to State Health Director Halverson Concerning Point of View Held by California Medical Association.)
- Item XI.—Letter of July 1, 1943: (Letter to Members of Component County Medical Societies Concerning Procedure Available for C. M. A. Members in Relation to Obstetric Work.)
- Item XII.—Letter of June 29, 1943: (Letter from A. M. A. Secretary West Concerning Obstetric Files.)
- Item XIII.—Letter of July 8, 1943: (Letter to Dr. Daily of Federal Children's Bureau from C. M. A. Secretary Requesting Information Concerning Fee Schedules.)
- Item XIV.—Letter of July 6, 1943: (Letter from Indiana State Medical Association Requesting Copies of C. M. A. Council Letters to County Medical Societies.)
- Item XV.—Letter of June 17, 1943: Letter from Michigan State Medical Society containing memoranda for members of the Michigan State Medical Society.
- Item XVI.—List of California Senators and Congressmen, with addresses. (Note: County societies and California Medical Association members may wish to write to their Senators and local Congressmen. See suggestion at end of letter of Ohio State Medical Association, as appearing under Item XVIII.)
- Item XVII.—Table showing births in California: (a) all births; (b) births, wives of enlisted men.
- Item XVIII.—Letter of July 17, 1943: (Informative comment and letter to members of the Ohio State Medical Association.)

Items Should Be Scanned and Letter to County Societies Should Be Read.—It is to be hoped that members of the Association will take the time to at least scan the above items, and also to read in full the letter addressed to the component county medical societies, in which the attitude of the California Medical Association is outlined by the Council, and the lines of action for California Medical Association members are indicated.

Letters received from the Indiana, Michigan, and Ohio State Medical Associations reveal the interest which other constituent state medical associations have in the principles at stake. (See Items XIV, XV, and XVIII.) It will be interesting to watch the course of future events in the Children's Bureau plan.

In the meantime, county medical societies of California, and California Medical Association members also, may wish to write to the Senators and to their district Congressmen (list of California Senators and Congressmen appears under Item XVI.) The letter of the Ohio State Medical Association contains excellent suggestions (see Item XVIII). The issues involved indicate the importance of prompt action.

NEW PROCUREMENT PROCEDURE TO APPLY TO PHYSICIANS UNDER AGE OF FORTY-FIVE

Important Directive of June 7, 1943, from Directing Board of Procurement and Assignment Service of Office of Emergency Management of War Manpower Commission.—A directive addressed to the State chairman for physicians in States with unfilled quotas of medical officers appears in full in this issue of CALIFORNIA AND WESTERN MEDICINE. (See page 78.) California stands third in such a list of nineteen states, having an unfilled quota as of May 15, 1943; the request being made that an additional 535 California physicians be made available for induction into the armed forces in the year 1943.

In its beginning paragraphs, the directive states: . . . Recruitment methods which have been used in the past have not produced the number of physicians who can be spared from the civilian population for service as medical officers nor have they produced the number urgently needed by the armed forces.

In view of these facts, a new recruitment procedure has been agreed upon by the Procurement and Assignment Service and the Army and Navy which will supplement the methods now being used by this service. . . .

Then follow instructions to Procurement officers:

To list by name and address all physicians under forty-five years of age . . . who are available, or who can be declared available.

Later, this statement appears:

At regular intervals the Army and the Navy will return to you the names of men who have not accepted commissions. You will submit these names to the State Director of Selective Service, asking that consideration be

given to draft reclassification. A copy of your letter to the State Director of Selective Service, together with the names of men whose reclassification you have requested, should be sent to the Central Office so that the information may be transmitted to National Headquarters, Selective Service System.

The implication in the above paragraph is this, that the Selective Service System will reclassify physicians who have been declared available but who have not accepted commissions!

* * *

New Directive Is Receiving Earnest Consideration.—The committees of the California Medical Association and its county societies which have duties related to procurement and assignment service are giving the War Manpower Commission requests their careful consideration, and will do all within their power to have California transferred from the list of States with unfilled quotas to the roster of Commonwealths that are credited with completed records.

* * *

Council's Recommendation Concerning Special Advisory Committees of Senior Physicians.—In connection with the above, the attention of county societies that have not yet filled their quotas is called to the recommendation made by the Council of the California Medical Association on June 20, in which it is suggested that such county societies appoint special committees composed of senior physicians to cooperate with their respective Committees on Participation of the Medical Profession in the War Effort. (This latter committee, in most cases, is one and the same as the County Committee on Procurement and Assignment.)

Recommendation follows:

The Council voted to recommend to component county societies which have not filled their respective quotas the advisability of appointing committees of senior physicians to cooperate with their local Committees on War Participation in the manner outlined in the resolution considered by the California Medical Association House of Delegates. (In JUNE CALIFORNIA AND WESTERN MEDICINE, see Reference No. 11 on page 350.)

RELOCATION OF PHYSICIANS IN AREAS OF MEDICAL NEED

A Problem in Civilian Practice.—Editorial comment is made in this issue on "New Procurement Procedure to Apply to Physicians Under Age of Forty-Five," and attention is called to a directive having dated June 7 relating thereto.

Of almost equal interest and import is another directive, dated June 5, 1943, from the Office of Emergency Management of the War Manpower Commission, which applies to those other States that have already filled their quotas for the armed forces and that are now being called on to request available physicians within their limits to relocate in areas where the civilian population is suffering from lack of physicians.

The directive dealing with this subject also comes from the Directing Board of the Procurement and

Assignment Service, and is addressed to the State Chairmen on Procurement and Assignment. (In California, to Dr. Harold A. Fletcher of San Francisco, and Dr. Edward M. Palette of Los Angeles.)

Its significance lies in this, that it shows that the Government intends to take active steps to provide medical care for citizens in areas that have population figures far in excess of those set as being a standard for *minimum medical care*.

The pertinent paragraph in the directive follows:

In your State there are localities where physicians are needed. Will you communicate with the physicians whom you have declared to be available and request them to relocate in areas of medical need. If after two weeks these physicians do not comply with your request, you should send a list of their names and addresses to the Central Office. The Central Office will prepare letters asking them to apply for commissions.

* * *

Significant Excerpts From a Brochure on Doctor Shortage Issued by the U. S. Office of War Information.—Before dismissing the subject of civilian needs for medical care, reference may be made to a 46-page brochure received on June 5 from the Office of War Information, and having the title "The Doctor Shortage and Medical Care of Civilians in Wartime: OWI Report No. 2." The following excerpts may be of interest, especially in relation to this later directive of June 5:

... "Between 40,000 and 45,000 doctors have entered the armed services. As the size of the Army and Navy increases, more will be called. The men in the uniform of the United States have been and will continue to be the best cared for medically in the world.

"But in total war the health and working power of the civilian is as important as the health and striking power of the fighter." ...

... "3. In too many cases physicians were recruited for the armed services without sufficient regard for the welfare of the civilian population. There are, however, enough doctors remaining in private practice to give adequate care to the civilian population, provided they can be properly distributed numerically and according to special abilities.

"4. The voluntary relocation of physicians from communities where there is an abundance of doctors to areas in acute need of doctors has proved extremely difficult and has not resulted in a solution of the problem." ...

... "6. The situation as a whole is not now out of control, but unless remedial steps are taken soon it will grow progressively worse. More physicians will be recruited for the armed forces, and doctors in critical areas, many of them elderly, may succumb to exhaustion from overwork." ...

... "Because of our Federal system and the individual laws of the separate states, the problems of relocation in this country are somewhat more involved than in Great Britain. Normally a physician from one state cannot practice in another without passing that state's medical tests." ...

... "The personal element is also important in attempting relocations." ...

... "One fact which should be realized is that 'luxury' medicine is out for the duration." ...

... "The problem of medical care in rural regions is quite different from the problem in cities, or in large industrial areas." ...

... "As of September 30, 1942, there were considered to be 135,932 effective physicians in the United States. The total number of physicians was 179,039, but some of these are of advanced age, are suffering from physical disabilities, or for other reasons are not practicing. There were on active duty with the Army, 31,400; with the Navy, 6,104; and in the U. S. Public Health Service, 1,069—a total of 38,573. Since September 30, 1942, the date of this estimate, additional doctors have been enlisted. Procurement and Assignment has estimated that if the ratio of one physician to each 1,500 persons in the country is preserved—and this ratio is simply a measuring stick, susceptible to variations—the maximum number of physicians who can be withdrawn from civil practice during 1943 is 11,455." ...

... "Prepaid insurance for doctors' care is being utilized by thousands of war workers, particularly on the West Coast, where there are areas as critically in need of doctors as anywhere in the United States.* Before the war began, medical societies of two West Coast states were supporting group plans for industrial workers, group plans which have proved increasingly beneficial as population figures grew. Doctors throughout these states who cooperate in the plans are assigned to care for groups of individuals and are paid by funds from the Association.

"The group plan in one of these states is proving especially capable of adapting itself to the rapidly changing needs of the population. Before the war, medical insurance was provided for industrial workers and farmers. Now this has been extended to take care of residents of emergency housing projects. It was found that many housing units had been located in regions where the available doctors were already taxed to the limits of their endurance, where the distance from the project to doctors' offices was too great, and where most residents were migrants unable to work out their medical-care problems in new surroundings without help.

"For such 'mushroom' communities the state-wide physicians' service and the Federal Public Housing Authority have cooperated in a plan which brings onto the grounds of the housing project itself a resident doctor, who is paid on straight salary basis, and a nursing staff. For special care beyond the resident doctor's attention, patients are referred to a panel of local physicians who cooperate in the State service program." ...

... "Thus the medical profession itself has adapted a group-care plan to an important war emergency. So far, it operates in four large and congested areas of this state, where not quite 90 per cent enrollment of housing project residents has been reached. War workers elsewhere in the State may soon be given doctors' help under this plan." ...

... "The general conclusion drawn from this investigation is that, while there is not at present a serious breakdown in the health of the nation due to the doctor shortage, there is a probability of slow deterioration of health in communities suffering from medical shortages." ...

... "It is also evident that we can no longer afford to look tolerantly on the scarcity of medical care in rural areas. Farmers have become as important as the man on the fighting front or the man in a shell factory.

"Prenatal and postnatal care for mothers has assumed added importance. As is usual in war time, our birth rate is soaring." ...

... "It is recognized that relocation of doctors is not the whole answer to the problem of medical care for the civilian population in war time. Nurses, hospitals, clinics, nutrition, sanitation, preventive medicine—all play vital parts.

"To these subjects the Office of War Information may return in a later report."

CALIFORNIA'S NONPROFIT MEDICAL SERVICE AND HOSPITALIZATION ORGANIZATIONS

On Types of Medical Service Coverage.—

Most California Medical Association members have a personal interest in the medical service organization—California Physicians' Service—since it was sponsored and brought into being by the California Medical Association; and likewise because they, in their relationship as "professional members" of this nonprofit corporation, have been for some four years its major financial backers or underwriters.

The development of California Physicians' Service has not taken place along paths laid with roses. Rather, the reverse. Nevertheless, it is to the credit of this organization that some of its difficulties have arisen, in good part, from an overplus of initial altruism in the expression of which the House of Delegates of the California Medical Association took a leading part.

Without actuarial background to support it, but in a laudable attempt to do much for little—experience has demonstrated, for "far too little"—California Physicians' Service started its career with "full coverage" contracts. That experiment early led it into financial troubles. For, while "full coverage" may be idealistically the procedure to bring into being, in practice that type of contract leads to financial disaster, since the mass-spread or sale of a sufficiently large number of such contracts does not take place; thus permitting a group of less desirable physical risks to call for an extra large amount of professional services. As a consequence the unit value, which itself was placed on a modest basis to compensate physicians for professional services rendered, has been far from realized; and, as a consequence, at the end of four years the rôle of "underwriters" has had less appeal to many professional members.

Subsequently the two-visit deductible contracts were proposed. California Physicians' Service has had about six months' experience with them, and they have had a very definite effect on raising the unit value. Other plans, notably the Michigan Medical Service, have had extensive experience with the limited surgical contract. This is regarded by most medical service plans as being the soundest from an actuarial point of view. The experience of Michigan has shown that even with this limited service it will take approximately three years for the program to balance itself out.

The people of California have been exposed to full coverage, and it is very difficult in certain areas of the State to get popular acceptance of the limited surgical program. This is one of the reasons why California Physicians' Service has offered the two-visit deductible, which is a safe approach to the full coverage plan. Only time and experience and the analysis of carefully acquired statistical data will settle these issues. Two things must be taken into consideration: the needs in relation to the public, and the types and quantity of service in relation to the contracts that might be developed to meet this need.

* Editor's Note: The second, third and fourth paragraphs may be indirect references to California Physician's Service.

California Medical Association Council's Consideration of California Physicians' Service Problems and Mannix Survey Report.—In this issue of CALIFORNIA AND WESTERN MEDICINE appear the minutes of the 311th meeting of the Council of the California Medical Association, held on June 19-20, 1943. Under Item 9 (*California Physicians' Service*) and Item 10 (*Survey of California Medical Service and Hospitalization Organizations—Report of Mr. John R. Mannix, Detroit*) appear the minutes of the Council's consideration of these important subjects. In later issues, these matters will be referred to again. Meanwhile, it is reassuring to learn that plans are in the making to bring about more harmonious relationships between all parties concerned.

The Council of the California Medical Association will hold its next meeting on August 22. Component county societies and members are requested to feel free to send in their suggestions, either direct to the Council or through district councilors or councilors-at-large. All of us are seeking the paths along which medical and hospitalization services in California may be made available to the largest possible number of citizens for whom those services are particularly designed. With broad-minded and wholehearted cooperation by all concerned, that basic objective may be realized.

MEETING OF THE A. M. A. HOUSE OF DELEGATES IN CHICAGO, JUNE 7-9, 1943: REGARDING SOME CALIFORNIA RESOLUTIONS

California as a Medico-Political Guinea Pig. Some years ago certain medical practice problems in California took on political hues, making it necessary for the organized medical profession of the State to become interested in proposals which, had they been carried out, would have seriously impeded the progress of scientific medicine. At that time, physicians in other States of the Union were not confronted with similar attacks. As a consequence, in more than one section of the United States, there were those in the medical profession who raised their eyes in somewhat hopeless despair when the activities of the California Medical Association were under discussion. Not so, however, when later on these same matters came to the front in their own Commonwealths.

These thoughts of happenings in former years flit into the mind, as one's eyes glance over the pages of the July 19, 1943, issue of *The Journal of the American Medical Association* and note the references to resolutions introduced in former years by California physicians in the American Medical Association House of Delegates, and which in this present year have been receiving increasing attention by the Board of Trustees of the American Medical Association.

Without going into details, but with somewhat pardonable pride in the vision of California Medical Association councilors in having California delegates propose for national consideration problems worthy of more than state-wide scope—in the

hope of possible solution—there are here mentioned some of the items referred to in *The Journal of the American Medical Association* of June 19, 1943: (a) From page 524, under "Supplementary Report."

SUPPLEMENTARY REPORT OF THE BOARD OF TRUSTEES DEALING WITH HOSPITAL CORPORATIONS ENGAGING IN THE PRACTICE OF MEDICINE

The subject matter covered in this report is contained in three resolutions submitted to the House of Delegates as follows. . . .

2. The resolutions introduced by Dr. Harry H. Wilson, California, at the Cleveland session in 1941.

3. The resolutions introduced by Dr. Lyell C. Kinney, California, at the Atlantic City session in 1942.

(b) This item from *The Journal of the American Medical Association* of June 19, 1943, on page 526.

SUPPLEMENTARY REPORT OF BOARD OF TRUSTEES DEALING WITH REPORT OF PROCEEDINGS OF THE JOINT COMMITTEE MEETING OF NATIONAL HOSPITAL ASSOCIATIONS AND REPRESENTATIVES OF THE BOARD OF TRUSTEES OF THE AMERICAN MEDICAL ASSOCIATION

FACTUAL DATA FROM CONFERENCES

From page 527:

The resolutions of the House of Delegates of June, 1942, were read as follows:

WHEREAS, The House of Delegates approved a resolution introduced by Dr. Harry H. Wilson at the 1941 session instructing the "Board of Trustees of the American Medical Association . . . to confer with similar committees representing the American Hospital Association and the Catholic Hospital Association of the United States, the conjoint committees to study and submit reports to their respective national bodies, in which would be outlined platforms or principles designed to clarify the relation of medical services that may be offered in prepayment hospitalization and similar plans, the same to be in line with the basic principles laid down in the past by the House of Delegates and other authorities of the American Medical Association; . . .

From page 529:

2. The Reference Committee on Legislation and Public Relations in joint meeting with the Reference Committee on Miscellaneous Business considering these resolutions reported that the resolutions introduce no new principles not already accepted by this House at former sessions and ask only definite clarification and study by the Board of Trustees. The joint committee recommended the adoption of the resolutions.

Dr. Harry H. Wilson, California, presented the following resolutions, which were referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, In the drafting of policies or contracts to cover medical and hospitalization services of nonprofit and other prepayment organizations it is of primary importance that the agreements or contracts shall make a clear differentiation of medical and hospitalization services that will permit physicians who give pathologic laboratory, x-ray laboratory, anesthesia or similar services, to maintain their physician-patient relationship and their own status as physician specialists; and . . .

4. The resolution presented by Dr. Lyell C. Kinney, California, at the Atlantic City session, June, 1942.

Resolutions on Improvement of Relations Between Physicians and Insurance Companies:

WHEREAS, It is desirable that physicians and insurance companies cooperate to the fullest extent, especially in the interest of persons covered by health and accident insurance; and

WHEREAS, A serious situation has arisen in the administration of certain health and hospitalization schemes

whereby medical services are being billed under the term "hospital services" and are being paid for by insurance companies, as they are labeled hospital services; and . . .

From page 530:

REPORTS OF STUDIES OF PLANS AND ADVICE IN AVOIDANCE
OF DANGEROUS PATTERNS FOLLOWED EACH YEAR

In 1934, at the Cleveland session a resolution introduced by Dr. Albert Soiland, Section on Radiology, stated that some hospitals were doing "collective bargaining for x-ray business," to the detriment of their staff roentgenologists. The Reference Committee considered "the questions involved in the resolution as being primarily ethical rather than truly economic, and for this reason, while recognizing the evils, refrains from direct comment concerning them and recommends that the resolutions be referred to the Council on Medical Education and Hospitals for such action as its wisdom may indicate."

As a result of study by the Bureau of Medical Economics, the ten basic principles for guidance in the formulation of any method of distribution of medical service were presented to the House of Delegates at the 1934 annual session and approved by it as follows:

In 1936, at the Kansas City session of the House of Delegates, resolutions were introduced by Dr. Albert Soiland, Section on Radiology, titled Resolutions on Taking Steps That Will Result in Practice of Medicine Being Conducted by Physicians and Not by Hospitals:

WHEREAS, Certain lay groups in this country are arranging for, or attempting to arrange for, the provision of diagnostic medical services along with and as part of hospital services; and

WHEREAS, The provision of such diagnostic medical services must inevitably foster fundamental changes in the practice of medicine; and

WHEREAS, The American Medical Association is of the opinion that the practice of medicine should at all times be confined to fully licensed physicians; and . . .

From page 531:

Resolutions also introduced at the 1936 session by Dr. Edward M. Pallette, California, titled Resolutions Disapproving Division of Any Branch of Medicine into Technical and Professional Portions, stated that certain lay groups are endeavoring to arrange for the provision of diagnostic medical service along with and as a part of hospital service and pointed out that such fundamental changes in the practice of medicine may well result in deterioration of our present medical standards and especially in deterioration in the quality of medical care furnished to hospital patients and that it is the official policy of the House of Delegates that it disapproves of the division of any branch of medicine into technical and professional portions. It directed also that the resolutions be brought to the attention of the American Hospital Association and its affiliated groups to, the end that existing arrangements permitting division in medical practice be terminated as speedily as possible.

When one reads and ponders on the above, the conclusion may be reached, perhaps, that in the far Southwest the medical profession is not so backward after all.

U. S. Casualties Total 90,860

Washington, June 24.—Total Army casualties for the entire war to date number 63,958, Secretary of War Henry L. Stimson announced today.

Total Navy, Marine Corps and Coast Guard casualties announced to date are 26,902, making the grand total 90,860.

The Army casualties comprise 7,528 killed in action or dead of wounds, 17,128 wounded, 22,687 missing, and 16,615 prisoners of war.

The Philippine campaign was the most expensive to date in casualties, owing to the large number captured and missing after the fall of Bataan and Corregidor.

Total casualties in the Philippine campaign were 31,610, including Philippine Scouts. There were 1,273 killed, 1,746 wounded, 17,939 missing and 10,652 prisoners.

The North African campaign cost 18,738 casualties—2,574 killed, 9,437 wounded, 1,620 missing and 5,107 captured.—San Francisco News, June 24.

EDITORIAL COMMENT†

DIETARY BLOOD DESTRUCTION

Five years ago it was shown by Johnson and Freeman¹ of the University of Chicago that, following a heavy fat meal, the thoracic duct lymph of dogs becomes markedly hemolytic. Fatty acids and soaps, which had presumably escaped resynthesis into neutral fats, were subsequently² shown to be present in this lymph in sufficient quantities to account for this hemolysis. Although this lymph empties but slowly into the blood stream, after a heavy fat meal the circulating red blood cells do become exposed to a sufficient quantity of these dietary hemolysins to cause increased fragility of canine erythrocytes,³ and increased excretion of degeneration products of hemoglobin.⁴ Other investigators have demonstrated a similar postdietary blood fragility in man.⁵ Two glasses of cream are sufficient to cause accelerated blood destruction in a normal adult.⁶ Although this dietary blood destruction is presumably insufficient to produce anemia in normal individuals, it may be a factor of considerable clinical importance under certain pathological conditions. This latter possibility is now under investigation.

P. O. Box 51.

W. H. MANWARING,
Stanford University.

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4. Freeman, L. W., Loewy, A., Marcello, A., and Johnson, V.: *Fed. Proc.*, 1:25, 1942.
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6. Johnson, V., Longini, J., and Freeman, L. W.: *Science*, 97:400 (April 30), 1943.

Contract Let for New U. S. Hospital

Award of a \$2,100,000 contract for construction of a \$4,000,000 Army general hospital at Van Nuys was announced today by the U. S. Engineer office. It will be one of the largest Government hospitals for Army personnel in Southern California.

The hospital, which will accommodate 1,700 beds, will be ready for occupancy in four months, the engineers estimated. Total cost of the project will be approximately \$4,000,000.

The construction will be of a permanent frame type of stucco exterior and plaster interior finish. It will consist of more than 100 buildings, including housing for officers, nurses and administrative personnel.

Included in total cost are kitchen equipment, hospital equipment, furniture and other materials costing approximately \$1,000,000, it was announced. All materials have been procured.

Work is to begin at once.—Hollywood Citizen-News, June 16.

† This department of CALIFORNIA AND WESTERN MEDICINE presents editorial comments by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to all members of the California Medical Association to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

ORIGINAL ARTICLES

Scientific and General

GASTRIC RESECTION FOR PEPTIC ULCER*

JOHN W. CLINE, M. D.

San Francisco

TWENTY years ago the acrimonious debate concerning the superiority of medical or surgical treatment of peptic ulcers occupied a prominent place in the literature and in medical meetings. The contentions of the internists and surgeons both had merit. They have now been reconciled, and opinions relative to the proper spheres of medical and surgical treatment have reached substantial agreement.

Duodenal ulcer is now considered to be primarily a medical problem. About 80 per cent of patients will respond to adequate therapy.¹ The remainder will develop complications, or their ulcers will prove intractable to medical treatment, and surgical intervention will be necessary. A larger proportion of ulcers of the stomach demand operative procedures due to the greater difficulty of accurate diagnosis, the hazard of malignancy and the need for more certain evaluation of the response to medical treatment.²

ETIOLOGY

The exact etiology of peptic ulcers has not been established. There is no complete explanation of the occurrence of ulcers and their recurrence after supposed complete healing under proper care. No adequate reason for their association with severe burns,³ certain brain lesions⁴ and other conditions has yet been conclusively demonstrated. Since the work of Sippy and others in the clinical care of ulcers, and the experimental work of Mann and Williamson,⁵ and others, evidence has been progressively accumulating to give prominence to the acid factor in causation and maintenance of ulcers. The recent experimental production of ulcers in animals by the intramuscular implantation of histamin in beeswax has served to emphasize its importance.^{6,7} Certain hygienic, nutritional, and psychological influences demand attention and correction, if possible, but principal surgical interest centers about the acid levels. Until the entire etiology of ulcers has been unfolded, we must direct our therapy toward control of this important factor.

BACKGROUND OF OPERATIVE PROCEDURES

Two decades ago, a variety of operative procedures was employed and to some extent the same situation pertains today. There is, however, increasing agreement that radical resection of the stomach is the operation of choice, except in acute

perforations, and when certain technical considerations or extreme hazards indicate less extensive procedures. As the superiority of the radical operation has been demonstrated, the ranks of those advocating gastro-enterostomy, gastroduodenostomy, pyloroplasty and similar procedures have progressively diminished.

The physiological basis of radical resection lies in the fact that the level of free hydrochloric acid is determined by the number and activity of acid-secreting cells, and the freedom of regurgitation of duodenal contents into the stomach. Berger⁸ has demonstrated that the parietal cells are found in important numbers only in the corpus and fundus, and that the former is larger and presents greater concentration of cells. The gastric phase of secretion results from stimulation by food in the stomach, and there is clinical and experimental evidence that the antrum and pylorus are important in this regard.^{9, 10, 11, 12, 13} The duration of the gastric phase is limited by the emptying time of the stomach.^{7, 14} The regurgitation of alkaline duodenal content neutralizes free acid.^{15, 16, 17}

An operation, to effectively reduce acid levels, must, therefore, remove a large proportion of the acid secreting cells, eliminate the indirect influence of the antrum, decrease the emptying time of the stomach and provide free regurgitation of duodenal contents. This entails excision of the pylorus, antrum and a sizable portion of the stomach.

There is some question as to the amount of stomach which must be removed to achieve the best results. Hunt,¹⁸ Walters¹⁹ and others believe that hemigastrectomy will accomplish almost as satisfactory results as more extensive resections. Wangenstein¹³ maintains three-fourths of the stomach must be excised to obtain the greatest benefit. These surgeons are accurate in their estimates of the amount of stomach removed. Wangenstein⁷ and Hunt¹⁸ have devised methods of measuring the stomach. We believe that many surgeons have a tendency to overestimate the amount of stomach removed and suggest the adoption of a uniform plan of measurement and record. The indefinite terms "partial," "extensive" and "subtotal" should be discarded, and the extent of resection should be expressed in the fraction of stomach removed.

We agree with Wangenstein¹³ that the objectives of operation are: "(1) That it relieve the patient subjectively and remove the ulcer diathesis; (2) That it prevent recurrent ulcer; (3) That it do not compromise the future of the patient."

ON RESECTION OF THE STOMACH

As yet no treatment, operative or otherwise, has consistently fulfilled these criteria; but the closest approach has been made by resection of the stomach which has been sufficiently radical to produce achlorhydria.

It has been our plan to remove two-thirds of the stomach in most cases. Occasionally, particularly in the case of high gastric ulcers, we have removed more. Our purpose is to remove enough of the stomach to secure at least a relative achlorhydria. The importance of the acid factor rests on such a

* From the Department of Surgery, Stanford University Medical School (the Stanford University Service at the San Francisco Hospital) and the Department of Public Health, San Francisco, California.

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firm experimental and clinical background that unless this is accomplished we believe the ultimate result to be jeopardized. A number of recent contributors have stated or implied that the occurrence of peptic ulcer in the human is primarily dependent upon unneutralized hypersecretion by the stomach.^{20, 21, 22} It has been said that experimental ulcer has never been consistently produced except by methods which prevent neutralization of the acid chyme,⁴⁵ and that no clinical ulcer has been demonstrated conclusively in the presence of actual achlorhydria.²¹ Even if these statements be not entirely accurate, they emphasize the importance of controlling the free hydrochloric acid level.

TABLE 1.—*Gastric Resection for Peptic Ulcers (1939-1942*)*

	Number	Deaths	Mortality Per Cent
Duodenal ulcers	47	5	10.6
Gastric ulcers	21	0	0
Gastrojejunal ulcers	11	0	0
Gastrocolic fistulae	4	0†	0
Total	83	5	6.0
81 two-thirds resections	2 limited resections		
82 Polya (principally posterior)	1 Billroth I Anastomosis		
A few duodenal ulcers left <i>in situ</i> .			

* To October 1, 1942.

† One patient died of pulmonary tuberculosis two months after resection.

CLINICAL MATERIAL ON STANFORD SERVICE

During the past four years, eighty-three patients on the Stanford Surgical Service of the San Francisco Hospital have been submitted to extensive resection of the stomach for peptic ulcer. Eighty-one had resections of two-thirds or more of the stomach. One Billroth I anastomosis was made, the remainder were of the Polya type. A majority of these were retrocolic, but recently a majority have been anterior anastomoses. The anterior method allows removal of more stomach with ease of subsequent suture, and adds to the facility with which the operation can be accomplished. No entero-anastomoses have been made. These divert alkaline duodenal contents and sacrifice the advantage of neutralization of the acid secreted by the remaining stomach.

Suture methods have varied, but usually the full width of the stomach has been sutured to the jejunum with external rows of interrupted silk and internal continuous rows of fine chromicized catgut. The Hofmeister technique has been used in some cases.

The pylorus and antrum have been removed in all cases. We feel that the experimental work of Wangenstein and others, and the poor clinical results of the Finsterer technique make this necessary. If technical considerations interfere, we believe it wiser to perform a two-stage operation, as advocated by McKittrick²³ rather than the Devine operation^{24, 25} or the mucosal resection of Bancroft.²⁶ It is important, when possible, to remove gastric ulcers and desirable to do so with duodenal ulcers. There is no great harm in leaving a duodenal ulcer, which is not actively bleeding, *in situ*. Even with much less radical procedures these ulcers heal. This is preferable to the hazard of attempting excision of ulcers in certain cases. The fatal outcome of two and perhaps three of the cases in this series might have been avoided by exercise of better judgment in this matter. One common duct injury followed by bile peritonitis and the perforation of an ulcer which had been too extensively freed before it was realized that removal would endanger the common duct account for two cases.

We place 8 to 12 grams of sulfanilamide in the abdominal cavity and wall prior to and during closure. We believe this has reduced our complications, particularly wound infections.

INDICATIONS FOR OPERATION

Gastric resection is indicated for the complications of duodenal and gastric ulcers, and those resulting from previous surgical procedures. In some instances the indications are absolute, in others relative, and, occasionally, subject to controversy. The most controversial indication is "intractability," as a result of widely varying individual interpretation.

Our cases have been classified according to the predominant indication, when such was present. When two or more indications existed, the case was tabulated as intractable. The indications for opera-

TABLE 2.—*Distribution of Cases*

Type	No.	Male	Female	Age	Duration of Symptoms	Gastric Analyses
Duodenal	47	43	4	36-64, Av. 52	2 wks. (?) - 50 yrs. Av. 9½ yrs.	F 0-154, Av. 91 T 20-160, Av. 107
Gastric	21	17	4	36-77, Av. 51	1 mo. - 28 yrs. Av. 8½ yrs.	F 34-124, Av. 72 T 48-137, Av. 99
Gastrojejunal	11	11	0	35-55, Av. 47	Prior to G. E. 0-23 yrs. Av. 5½ yrs. Gastroenterostomy 1-25 yrs. Av. 14½ yrs. Asymptomatic 0-19 yrs. Av. 5½ yrs. Recurrent symptoms four wks. 9 yrs.	F 38-90, Av. 61 T 60-106, Av. 81
Gastrojejuno-colic Fistulae	4	4	0	41-72, Av. 53	Prior to G. E. 0-21 yrs. Av. 7 yrs. Asymptomatic 1-12 yrs. Av. 7 yrs. Recurrent ulcer symptoms 0-16 yrs. Av. 4 yrs. Diarrhea 1-4 mo. Av. 2 mo.	F 0-16, Av. 6 T 20-40, Av. 27

tion have been classified as: Hemorrhage, pyloric obstruction, perforation, intractability, gastrojejunal ulceration and gastrojejuno-colic fistula. Hemorrhage has been further subdivided into acute, recent and previous recurrent massive groups.

TABLE 3.—Indications for Operation

	Hemorrhage			Perforation	Obstruction	Intractability
	Acute	Recent	Previous Recurrent			
Duodenal	5	8	5	3	11	17
Gastric	2	6	2	2	1	8

Hemorrhage.—Bleeding in some degree is inherent in all gastric and duodenal ulceration. Significant gross hemorrhage occurs in 25 to 35 per cent of cases.^{27, 28, 29, 30} We consider massive hemorrhage that which produces sizable gross hematemesis, tarry or bloody stools, or both, associated with faintness or loss of consciousness, rapid pulse, fall in blood pressure, and marked reduction in hemoglobin and red cell count.

Those patients admitted to the hospital because of active bleeding of this type, and who were submitted to operation in the first few days for the purpose of arresting hemorrhage, are listed as cases of acute massive hemorrhage. Those who had experienced massive hemorrhage shortly prior to admission to the hospital, or who were admitted while bleeding, were carried beyond this phase by conservative means and then submitted to operation, are considered as cases of recent massive hemorrhage. Patients who had bled importantly on more than one occasion in the past but who had no recent history of gross bleeding are classified as previous recurrent hemorrhage.

We agree with the opinion of other observers that acute hemorrhage in patients below the age of forty-five should usually be treated by conservative means. Generalization is dangerous and each case should be considered individually. It is our experience and that of others that an occasional young patient will die of exsanguination, but the mortality rate of medical treatment will probably not exceed 5 or 6 per cent.^{29, 31} This is lower than reasonably could be expected if all patients in this group were submitted to operation. It is occasionally necessary to operate upon a young patient who continues to bleed or has repeated hemorrhages. The decision is one which requires careful consideration and experienced judgment.

Patients beyond forty-five years of age must be viewed in a different light. Those in this age group stand hemorrhage from any source less well than younger persons. The bleeding vessel has a thicker wall which retracts less well and may be a rigid calcified tube in which effective thrombus formation is difficult. The mortality rate of conservative treatment in these patients is high, probably about 30 per cent,^{1, 29, 30, 31} and is higher than would be expected from operation uniformly applied to this group.

These patients should be observed by the surgical staff from the time of admission, and unless there

is evidence of prompt and complete arrest of hemorrhage, operation should not be long delayed. We agree with Allen, Walters, Finsterer³² and others that operation should not be delayed much beyond forty-eight hours. If permitted to continue, hemorrhage will produce anemia, anoxemia of the tissues, lowered blood proteins, tissue edema, and malnutrition which greatly increase the risk.

When a patient who has not had a previously established diagnosis of ulcer enters the hospital, acutely bleeding from the upper gastro-intestinal tract, the surgeon is confronted by a difficult decision. If the patient is in the older age group, operation may be indicated for arrest of hemorrhage, but it is this same group which presents the majority of other causes for hemorrhage. The percentage of diagnostic errors is high. It can be reduced in some degree by carefully performed x-ray examination,³³ which may reveal an ulcer or esophageal varices. We have operated upon a few cases in which no ulcer was present.

Generous use should be made of transfusions whether patients are treated conservatively or radically. The widespread belief that the elevation of blood pressure due to transfusion may displace the clot in a vessel which has recently bled may have had some basis in fact but, at best, it must be rare. We have not encountered it even with the older, more rapid methods of transfusion. In fact, our experience has been to the contrary. We do not advocate transfusion of an actively bleeding patient unless this is urgently required, because the transfused blood may be lost, although we have seen patients apparently cease to bleed during or immediately following such transfusions. In eighty cases in which the blood pressure was above shock levels the average rise in systolic pressure caused by administration of 500 c.c. of blood was less than 5 mm. of mercury. This cannot be looked upon as a dangerous increase, and the value of transfusion in a patient suffering from the acute anemia of severe hemorrhage cannot be denied. With the increased availability of blood due to blood banks, we are using transfusions to an ever greater extent, before, during and after operation.

We have submitted seven patients to gastric resection during the actively bleeding phase, with one death.

Operation can be more safely performed after a patient has recovered from the effects of hemorrhage and has restored his hemoglobin, proteins, and nutrition. Operation must be considered in those patients who have had massive hemorrhage and have recovered from it. This is especially true when the hemorrhages have been repeated. The more frequent the hemorrhages in the past, the greater the likelihood of future bleeding.³⁴ A fairly large number of patients bleed once without previous or subsequent ulcer symptoms. These hemorrhages may come from acute, superficial ulceration which responds well to medical therapy. With repeated hemorrhages, and particularly in the older patients, the ulcer tends to be deeply eroding, and usually produces other symptoms as well. The prospect of success with conservative treatment is

poor, and these patients usually should be operated upon.

In this series there were fourteen instances of operation for recent massive hemorrhage and five for previous recurrent hemorrhage.

Pyloric Obstruction.—Cicatricial stenosis of the duodenum or pylorus of sufficient degree to interfere with emptying of the stomach is frequently seen in long-standing ulcers. It is more common in elderly patients and may be seen in the absence of other recent ulcer symptoms. It should not be confused with the obstruction resulting from edema surrounding an active ulcer, which may subside under proper medical regimen. Many ill-advised gastro-enterostomies have been performed in the past for this type of obstruction. Some degree of cicatricial stenosis and active ulceration are frequently present simultaneously. In these instances the ulcer is usually of the posterior penetrating type and operation is indicated.

Patients with obstruction often present low acid levels. The combination of obstruction, low acid, and the fact that a large number of these patients are elderly have influenced many surgeons to perform gastro-enterostomies in this group and some still advocate this procedure as the operation of choice. At first glance the problem appears to be one of providing an adequate mechanical outlet for the gastric contents.

Our experience has been that these patients get along very well for variable periods after gastro-enterostomy, but in a number, the subsidence of the associated gastritis³⁵ causes higher acid levels to return and these patients contribute importantly to the incidence of marginal ulceration. It is, therefore, our opinion that unless there is contraindicating systemic or technical consideration, these patients should be given the benefit of radical resection.

Perforation.—Our usual practice is to treat acute perforations by simple closure after taking biopsies of lesions not clearly distal to the pylorus. Occasionally, one encounters large callous ulcers which make closure difficult or in which closure obstructs the pyloric outlet. Five patients, three with duodenal and two with gastric ulcers were submitted to resection at the time of acute perforation. In all instances indications additional to acute perforation were present. We believe the less done to patients at the time of perforation the better, but in the occasional case which requires some procedure in addition to suture of the ulcer, resection is preferable to gastro-enterostomy.

Intractability.—This classification is the largest of both the duodenal and gastric ulcer groups. Many duodenal ulcers present long histories with multiple symptoms. In such cases, when no one complication was predominant, and when some medical treatment had been employed, the case was classified as "intractable." Very few patients were submitted to operation solely because of subjective symptoms which were sufficiently aggravated that "they could not live with their ulcers." The patients in this series were faced with economic and social limitations which interfered in some degree

with proper medical care. Educational deficiencies, alcoholism, and a lack of interest in pursuing medical treatment all contribute to the development of complications and the advisability of operative procedures.

The same circumstances pertain to the care of the patients with gastric ulcer, but the additional factor of malignancy occupies an important place. It is at times very difficult to determine whether an ulcer of the stomach is benign or malignant.^{2, 36, 37, 38, 39}

The duration of symptoms, the size of the ulcer, its position in the stomach, its x-ray and gastroscopic appearance, the acid levels, and response to therapy all give valuable information, but occasionally, when all the evidence points toward a benign lesion, malignancy may still be present. A preoperative diagnostic error of 14 per cent after careful study has been reported by competent observers.³⁸ To a lesser extent, when the preponderance of evidence favors malignancy, a benign ulcer may be found, but this is of prognostic significance only.

A short history favors malignancy but does not rule out a benign lesion. It has been demonstrated that a majority of ulcers more than 2.5 cm. in diameter are malignant but 10 per cent of those with craters of less than 1 cm. are carcinomatous.³⁸ Ulcers of the lesser curvature and posterior wall tend to be benign and those elsewhere malignant.^{30, 32} This is especially true of the greater curvature. Normal or increased acid values favor benign ulceration, but are commonly found in association with so-called "ulcer cancer."^{38, 39, 40} X-ray and gastroscopic diagnoses are usually accurate, but are occasionally misleading, and more frequently inconclusive, even when made by experienced trained observers.

Most malignant ulcers have been carcinomatous from the start, but it has been fairly well demonstrated that certain long standing benign ulcers become malignant.⁴⁰ The number is certainly smaller than the original figures of McCarty, and may be smaller than the more conservative estimate of Stewart.⁴⁴ However small, it still requires consideration.

The preoperative differential diagnosis between benign and malignant ulcer is often extremely difficult. It is occasionally hard for the experienced surgeon to distinguish between them at the operating table, and the final diagnosis must be determined by microscopic examination.

Under these circumstances the indications for surgical intervention must be liberal. It is our opinion that a patient in whose case the majority of factors (*i. e.*, history, location, size, x-ray and gastroscopic appearance of the ulcer and acid levels) do not strongly indicate a benign lesion, should be submitted to operation at once. In those instances in which the evidence is predominantly in favor of a benign ulcer, the patient should be treated medically for a limited trial period, usually four weeks. If, in this time, improvement is observed as judged by symptomatic relief, diminution

in the size of the ulcer by x-ray and gastroscopic evidence of healing, conservative therapy should be continued. If not, or if there is subsequent interruption of progress, operation should not be delayed. Patients who respond favorably to medical care should be kept under close observation for long periods, and in the event of recurrence, operation should be seriously considered. It must be borne in mind that carcinomatous lesions may give evidence of protracted improvement under medical therapy.

Eight of the twenty-one cases of gastric ulcer were submitted to operation primarily because of doubt as to diagnosis or failure to respond to medical treatment.

Gastrojejunal Ulcers.—Most observers believe that gastrojejunal ulcers should be treated surgically. We agree with this point of view in general. The complications of marginal ulcers are serious. Most of these ulcers have gross hemorrhage. Free perforation is very difficult to deal with, and gastrojejunocolic fistula presents a major technical and nutritional problem. The frequency of marginal ulcers is probably greater than generally appreciated. It is usually the more serious ones which come to our attention. The findings in this series indicate that stomal ulcers may heal, recur and again heal, leaving comparatively little trace. Under certain circumstances medical treatment is justified, but in the majority of instances surgery should not be delayed long after establishment of the diagnosis.

Gastrojejunocolic Fistulae.—The indication for surgery in gastrojejunocolic fistulae is absolute.

PREOPERATIVE PREPARATION

When time permits, as it does in elective cases, the patient should be carefully studied prior to operation. The risk of operation in the presence of chronic cardiac, vascular, renal or pulmonary disease must be evaluated, and balanced against the advantages of operation. Patients requiring operation often present rather marked nutritional disturbances. Adequate attention must be paid to anemia, dehydration, depletion of proteins and electrolytes, and avitaminosis. The usual oral or parenteral methods of restoring these lacks should be employed. We would like to stress the value of preoperative transfusions in the prevention of shock at the time of operation.

The stomach should be empty at the time of operation, and a Levine tube left in place during operation. In the presence of obstruction the stomach should be lavaged daily during the time of preparation, and constant suction applied for 24 to 48 hours immediately preceding operation. We have recently been lavaging the stomach with sulfanilamide just prior to operation. This probably has considerable value in cases of carcinoma, but seems superfluous with ulcers.

Patients with gastrojejunocolic fistulae are placed on succinylsulfathiazole prior to operation, and preliminary colostomy in the ascending or right transverse colon is made after the plan of Pfeiffer.⁴² The improvement of patients following this procedure is remarkable.

POSTOPERATIVE CARE

Continuous suction is applied to the Levine catheter and maintained for about seventy-two hours. Audible peristalsis has usually been reestablished by that time. The stomach is then reaspirated, a measured amount of fluid, usually 300 c.c., is introduced and the tube clamped. The stomach is reaspirated at the end of three hours. If more than half of the fluid has passed out of the stomach, the tube is withdrawn and feeding by mouth cautiously begun. The diet is increased in amount and variety gradually. The patient is usually taking a soft, well-balanced diet within ten days of the time of operation.

The Levine tube has great value in the immediate postoperative period, but it presents disadvantages. Practically all patients complain of its presence, and not infrequently the "sore throat" resulting from the use of a tube constitutes the major discomfort of the convalescence. It may well increase the incidence of pulmonary complications and parotitis. Protracted use causes ulceration of the pharynx or esophagus. During the past year every patient coming to post mortem on our Service, from whatever cause (carcinoma, intestinal obstruction, peritonitis, etc.), in whom a tube had been employed for more than a few days, presented such ulceration. One patient in this series developed a stricture of the esophagus which was presumably benign, and possibly the result of protracted use of a Levine tube. Another factor of importance is the size of the tube. There is a tendency to use the larger tube because of the greater ease of passage and less frequent stoppage. We believe the smaller 12 F and 14 F to be less dangerous than the 16 F tubes.

Coller and Maddock⁴⁴ have demonstrated that the average postoperative patient, whose temperature is not high and who is experiencing no unusual fluid loss, requires 2,000 to 3,000 c.c. of fluid per day. One liter of normal saline and two of 5 or 10 per cent glucose in water cover his fluid and electrolyte requirements. Any deficit produced by gastric suction must be covered. Fluids, and particularly salt solution, in amounts greater than required, lead to production of edema and should be avoided. In cases of protracted parenteral intake the other electrolytes must be supplied. Special care should be observed in the amount and speed of administration of fluids to elderly patients and those with cardiac, vascular or renal disease.

Careful attention should be paid to blood chlorides and proteins. More than the usual requirements in vitamins should be provided parenterally until the patient is able to take them by mouth.

We have frequently used the oxygen tent in the early postoperative period with gratifying results.

We urge patients to follow an adequate but somewhat restricted diet for a long period. We advise frequent meals of a bland type containing little which would produce mechanical or chemical irritation. It is our belief that this regimen adds to the prospect of maximum benefit from operation. A small number of patients follow this advice but a

majority shortly resume diets and habits of their own preference.

RESULTS

Five patients in the group died in the post-operative period. The cause of death in one was massive bilateral pneumonia. This was prior to the time of effective chemotherapy. One died of hemiplegia. Three deaths were due to technical errors or errors of judgment which can be avoided in the future. The overall mortality of 6 per cent is not unduly high for patients of the type we are called upon to treat in our hospital, but should and can be improved.

The ultimate evaluation of any gastric operation requires many years. It has not been uncommon for patients to be well for twenty years or more after gastro-enterostomy, and then develop serious complications. Gastric resection has not been performed upon a large enough number of cases over a sufficiently long time to justify some of the claims which have been made for it. We already know that it is not a certain guarantee against marginal ulceration, and it is probable, just as it was with gastro-enterostomy, that the incidence is greater than we suppose. It has been reported to be as high as 8 per cent,⁴⁸ but most observers consider this an unusual circumstance.

It can be safely said, however, that the early results are far superior to those of any other operative procedure, and evidence indicating that the same will be true of the late results is accumulating.

The follow-up in this series leaves much to be desired. Most of the patients have been followed for at least one year. During this period the results have been excellent on the whole. A number of patients complain of fullness, discomfort, cramps, and occasional diarrhea after large meals. The major portion result from dietary or alcoholic indiscretions.

Some patients have subsequently reentered the hospital for unrelated reasons. These patients have all had good results. Three have been admitted for gastro-intestinal symptoms. One of these had a marginal ulcer one year after resection for gastro-jejunal fistula and has been well since a secondary resection. One was discharged, symptom-free, after negative investigation, and one was discharged three days after admission for gastric symptoms associated with alcoholism.

Not all of the patients were submitted to post-operative gastric analysis, but only two patients with free hydrochloric acid to single histamin stimulation were found. One of these was the gastrojejunal ulcer referred to above, and the other a patient submitted to limited resection.

SUMMARY AND CONCLUSIONS

1. A series of eighty-three cases of resection of the stomach for the complications of peptic ulcer is presented.
2. The indications for operation, preoperative preparation, operative procedure, postoperative care and results are discussed.
3. Resection of two-thirds of the stomach, including the pylorus and antrum, is based upon

sound physiological principles, and is the operation of choice in most cases of peptic ulcer requiring surgical intervention.

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Navy to Expand Coast Hospital Chain

Rear Admiral Ross McIntire, personal physician to President Roosevelt and surgeon general to the Navy, today in a press conference here announced plans for huge expansion of Navy West Coast hospital and convalescent facilities. . . .

He stated a temporary hospital will be erected at Astoria, Ore., for men in the air arm of the Navy stationed along the Oregon coast.

The Navy plans to have 60,000 hospital beds available by the end of the 1944 fiscal year, and another 20,000 by the end of 1945 fiscal year, all within the continental limits of the United States, he said.

Asked why Navy physical standards had been lowered, he said manpower for the Navy was low and that the Navy now planned on taking in men for limited duty to relieve others for sea duty.

Admiral McIntire praised the mobile base hospitals in the South Pacific, pointing out that the death rate was very low among the wounded.

He said medical cases in this war are much different from those of the last World War because of the extreme violence in the present conflict. . . . —San Francisco News, June 2.

WELDING FUMES AND GASES: THEIR EFFECTS ON THE HEALTH OF THE WORKER*

JOHN BRODIE, M. D.

Wilmington

IN the present war effort, particularly in the building of ships, the process of welding has become so important as to be almost indispensable. It is, therefore, timely and opportune to speak of the effects of the fumes and gases, generated in the process of welding, on the health of the welder and his associates.

DANGERS TO THE WELDER IN MODERN ARC WELDING

Now, in modern arc welding there are at least three sources of danger to the worker. The first is that from the arc itself, where the temperature may reach over 6,000 degrees Fahrenheit. Such tremendous heat may be responsible for burns which heal but slowly. Besides this, the intense ultraviolet rays generated may produce eye-flashes, which are only too common. Then there is the hazard that arises from the presence of ozone, which is formed from the oxygen around the arc. The arc is also responsible for the nitrous fumes, which are generated by the combination of the nitrogen and the oxygen of the air. These so-called nitrous fumes consist of a varying mixture of the monoxide of nitrogen, the dioxide, the trioxide, the tetroxide, and the pentoxide, as well as nitrous and nitric acids. Of these, the dioxide is the most stable.

Coming now to the second source of danger, namely, the rods and their coverings, we have to take into account the production of not only the particulate fumes of iron, but also the fumes of any other metals and substances that enter into the composition of the rods. To mention only a few of the known metals, there are manganese, chromium, cadmium, nickel, zinc, and magnesium, each of which may produce its own symptoms of poisoning. The coating of the rods introduces further possible hazards from such substances as fluorides, silicates, varnish, rubber, etc.

Finally, we must not forget the factor of oxygen deficiency, particularly if the welding is done in a confined space where the ventilation may be poor.

CLINICAL ASPECTS

Turning to the clinical side of the problem, we may ask, what are the commonest and most outstanding complaints for which welding might be held responsible? About this there still exists much difference of opinion, and I believe that the best way to answer this question is to present the histories of some of the cases of welding fume and gas "poisoning" that I was able to study during July and August of 1942. As there is a notable lack of case reports in the literature, such histories may also prove interesting.

* Paper based on a study of patients referred to the office of R. W. Stellar, M. D., at Wilmington, California. Prepared for a group of physicians, surgeons, and others interested in the health of some 40,000 shipyard workers in Southern California.

REPORT OF CASES

CASE 1.—F. D., age 34. Pipefitter at the shipyards for the last four months. His story was that last night, after he had got home from his work of cutting galvanized pipes with the electric arc, he felt an aching in his bones and in his head. He became conscious of a tight feeling in the chest, and began to cough, but was unable to raise any phlegm. Then he got a shivering chill, which was followed by feverishness. All this he ascribed to the fumes from welding galvanized pipes, because he was told by his fellow workers that those were exactly the symptoms of "galvanized poisoning." He was sure that the galvanized fumes must have been responsible, because six weeks ago, after cutting 65 feet of galvanized pipe, he also developed a dry cough and a tightening in the chest. He stated that he wore a hood at his work, but no respirator or mask. Examination showed a very muscular, stocky individual, lying in bed at home, and appearing very nervous and irritable. He had been a professional weight-lifter, and was obviously anxious about losing his cherished strength as a result of "galvanized fumes." His temperature was 100. His throat was only slightly reddened, and his heart, lungs, and blood pressure were normal. An x-ray of the chest, taken a day later, was negative. This was such a relief to him that he immediately returned to his work. You may wonder whether this man's symptoms were due to metal fume fever, or was he developing an attack of "flu" or grippé. The important point to note is how quickly he recovered from his attack. This rapid recovery is in favor of a diagnosis of metal fume fever.

CASE 2.—W. N. T., age 36. Pipefitter at the shipyards for the past four months. Before this he was a pipefitter in the oilfields. He states that he has not been well for the last three months. His story is that three months ago, after a hard day's work at cutting galvanized pipes with the electric arc, he developed a shivering attack. Then he felt feverish. Next morning his throat felt very sore, and he began to have a dry cough. On the following day, he developed a cold in the head with headache and running nose. After two weeks, his throat got better, but his cough has persisted. Even now he has such violent bouts of coughing, with raising of brown phlegm, that he becomes nauseated and gets a pain in the pit of his stomach. Although his appetite is good, he says he has lost ten pounds in the last three months. On examination, coarse expiratory râles can be heard in the chest, and the x-ray film shows much peribronchial thickening. In considering the etiology of this case of bronchitis, shall we say that it is due to the inhalation of galvanized fumes, or that it is the result of an upper respiratory infection? He says that he is not subject to colds, but metal fume fever is not usually followed by a persistent bronchitis such as he has had.

CASE 3.—J. O. R., age 23. Has been a ship's painter for the last six weeks, and before that he was a buffer. A month ago he began to have night sweats, his appetite became poor, and he has been losing much weight—close to ten pounds. He has had a cough for seven weeks, and raises a reddish sputum which he thinks is due to red lead and dust. There has been no nausea or vomiting. During the past three weeks he has often felt weak and dizzy, and he sometimes sees spots before his eyes. He says he wears a respirator, but he thinks it is of no use because the filter is not thick enough. If it were thick enough, he argues, it would interfere with his breathing. In considering this case, it may be asked which was the original cause of his symptoms, his present work as a ship's painter or his previous work as a buffer? In any case, the night sweats, the loss of weight, and the cough with reddish expectora-

tion made me suspect tuberculosis; but a chest film was quite negative, and his temperature was normal. The sputum was not tested for tubercle bacilli.

CASE 4.—K. R. C., age 33. For seven months he has been a combination welder, i. e., he welds sometimes with the electric arc and sometimes with the oxy-acetylene torch. Besides cutting galvanized pipes and welding steel plates, he also does bronze and aluminum welding. Before the war, he had a welding shop of his own. His story is that a week ago he began to ache all over, and last night he had a shivering chill which lasted three hours. He coughs little, but raises yellowish phlegm. When asked what he had taken for his prolonged chill, his answer was that he took ateban tablets. Interested, I asked him why he took those particular tablets, and his reply was that, while he was in South America, he caught malaria in 1939, and since then he has been subject to attacks, usually in the spring only, but occasionally in the fall also. If he took ateban tablets three times a day for three days he made a prompt recovery. He thought, however, that the chill he had a week ago was a little different, because he was not so feverish and did not perspire so profusely as in his usual attacks of malaria. His chest film was normal, but his liver was slightly enlarged and definitely tender. His spleen was not palpable.

CASE 5.—E. W., age 34. During the last nine months he has been a welder at the shipyards, and before that he was a house painter and paperhanger. He states that two months ago, at 4 a. m., he woke up with choking and cough, but little expectoration. This attack lasted fifteen minutes. Similar attacks occurred every night for a week, but finally ceased with the help of Brown's mixture. Three weeks later he had another series of attacks for five nights in succession. Ten days ago he developed an ordinary cold with sore throat and running nose, and two days later he began to cough and bring up yellowish-white phlegm. This cough with expectoration has persisted, and he now complains of nausea, insomnia, and soreness around the lower ribs. An interesting feature is the fact that, four months ago, he noticed that whenever his wife swept the floor, he got an attack of sneezing. During such an attack he would sneeze twenty-five to thirty times, and then discharge much thin fluid from the nose. On examination, it was found that he had a few scattered bronchial râles on both sides, but an x-ray film of the chest showed only peribronchial thickening. His pharynx, however, showed the presence of a marked postnasal discharge, and there was a deflection of the septum high up in the nose. This case illustrates the fact that any upper respiratory disease, such as nasal, sinus, or throat trouble, makes a man peculiarly sensitive to welding fumes and gases which may produce a persistent and troublesome bronchitis.

CASE 6.—R. R., age 57. Chipper. When I first saw him on July 15, he was obviously nervous, irritable, and antagonistic, but I was able to elicit the following story. On March 17, after one of the burners had been using an acetylene torch in the first watertank, he himself settled down to do his work of chipping. After working 2½ hours he began to feel dizzy. He, therefore, got out of the tank, sat outside for fifteen minutes, and then walked over to the field hospital. After receiving oxygen for one hour, he ate his lunch, sat in the sun, and slept for two hours. Then he returned to the field hospital where he inhaled more oxygen. At the end of the shift, at 4:30 p. m., he drove home in his car, a distance of some forty miles, ate his supper and went to bed. At 11 p. m. he suddenly woke

up with shortness of breath and a rattling noise in his throat. Excitedly he told me, "I have heard that rattling in the throats of men before death, and I was scared, so I called my doctor." He was sent to the hospital where an x-ray of the chest showed a diffuse, soft, bilateral, and patchy infiltration of the lungs. An electrocardiogram, taken later, showed some depression of the T waves. Now, four months later, he complains of a shooting pain across the anterior chest, especially in the third intercostal space on the right, but shifting from place to place. He feels weak, perspires easily, feels nervous, is unable to sleep, and has become impotent. His only important previous illness was in December, 1940, when he was in the hospital for a month with double pneumonia. Examination showed a nervous, middle-aged man with coarse tremors of the fingers. His heart was only slightly enlarged to the left, but the rate was 110, and two minutes after exercise it was 124. There were occasional extra-systoles. His blood pressure was 170/98. A new film of the chest showed only peribronchial thickening. As it was known that his blood pressure had been normal a short while before, a diagnosis of neurocirculatory asthenia could be made. An electrocardiogram, taken again, showed signs of only mild coronary sclerosis. He was much relieved to know that his heart was not as bad as was thought. After taking a mild sedative, his blood pressure came down to 150/92, and the rate of his heart dropped to 100, and only 110 after exercise. He still had slight pain across the anterior chest on deep inspiration. By July 30, there was only a dull ache across the second and third interspaces, the cardiac rate was 90, and the blood pressure 140/90. He is now very coöperative, does not seem or feel nervous, and is going back to work. I suggested a lighter job, but he prefers his old job of chipping. In this case, I believe we may make a diagnosis of acute pulmonary edema due to the inhalation of a dangerous concentration of nitrous fumes. When he came to see me he had long recovered from this, but he had developed a distressing neurocirculatory asthenia with cardiac neurosis.

COMMENT

If we make a general analysis of these sample case histories, we can differentiate at least one general reaction to welding fumes and one local reaction to welding gases. The general reaction has been known for a long time, because it produces a definite and clear-cut picture. It is now known as metal-fume fever, but was formerly known as "metal ague," "zinc chills," or simply the "shakes." It is caused by the inhalation of the fumes of zinc, or rather the oxide of zinc. Thus, it is known that, in cutting galvanized pipes or welding sheets with the electric arc or the acetylene torch, a certain proportion of the operators and their helpers will develop metal-fume fever, because the galvanized coating contains over 95 per cent zinc. This is particularly liable to happen if the work is carried on in confined areas, such as tanks, boilers, or double bottoms of ships, where proper ventilation is difficult and often quite imperfect.

SYMPTOMS

The onset is acute, and the symptoms resemble an attack of "flu" or grippé. A typical attack begins after the man has left his work and gone home, *i. e.*, several hours after exposure to the fumes. Sometimes, even during exposure at his work, he may notice a metallic taste in the mouth and a dryness in the throat, as well as a feeling of nausea and tightness in the chest, which he may report at

the time or before going home. After reaching home and going to sleep, he awakens with a shivering chill which often lasts one or two hours. He then feels feverish and breaks out in a profuse perspiration. His temperature is usually found to be between 100 and 102 degrees Fahrenheit. At the end of the attack he aches all over and feels exhausted. Such an attack is typically short-lived, and lasts only twenty-four to forty-eight hours.

An interesting feature is that these workers often develop a certain immunity or resistance if they continue at the same work. If, however, they get away from welding for a time, they rapidly lose this immunity. Thus, it happens that many of the older workers, having had one attack early in their career, never have another unless they leave this work and then return to it after an interval.

Such an attack may so resemble the onset of influenza that it is sometimes difficult to be sure whether we are dealing with metal-fumes fever, or an attack of "flu" or grippé. Of course, there is the history of exposure to zinc fumes, but not all workers thus exposed suffer an attack of zinc chills. As a matter of fact, the majority do not. It has been estimated that out of 100 workers regularly exposed to galvanized fumes, about 75 do not suffer at all. About 20 out of the 100 have chills occasionally, and only five have frequent attacks. Often there is no typical attack at all, but the patient complains of an annoying soreness of the throat, or of a dry, hacking cough that tends to persist. Sometimes the chief complaint is nausea, with or without vomiting, and loss of appetite. A common and very uncomfortable condition is a feeling of constriction or tightness in the chest, when every breath becomes an effort. Not infrequently the chief trouble is that after an acute attack the patient is left tired and weak, with no pep or ambition, but with a sense of nervousness which makes him feel unfit or indisposed to return to work for many weeks. Physical examination is usually negative, but the morale seems to be lowered. For want of a better name, I refer to these men as cases of "*welding-fume neurosis*."

REACTIONS TO GASES

Leaving the subject of metal-fume fever, which is an acute, general, and transient reaction to welding fumes, we now turn to the gases, and especially the nitrous gases, which are responsible for a local reaction in the lungs. This pulmonary reaction may be serious and even lead to death. What happens is this: After exposure to these welding gases, the worker has an acid taste in his mouth and begins to cough. If he then goes out into the fresh air, his condition may improve considerably; but five or six hours later the cough returns in a more intensive form, with shortness of breath, cyanosis, and a feeling of pressure in the chest. The patient thinks he is having an attack of asthma. This may be followed by acute pulmonary edema with profuse expectoration of foamy, yellowish, or pinkish fluid. Heart failure and death may follow in forty-eight hours. If the amount of nitrous gases inhaled is smaller, the patient may develop, not pulmonary edema, but pneumonia or acute bron-

chitis. An x-ray of the chest is useful in the diagnosis of pneumonia or of acute pulmonary edema, the latter of which shows a diffuse, generalized, and bilateral infiltration of the lungs with indefinite outlines, *i. e.*, the infiltration is of the soft exudative type.

The effects of nitrous gases may be so serious that it becomes important to ascertain how frequent is this hazard. Are many workers affected by it, or is it only a rare occurrence? And besides the immediate effects, what about the chronic results? Are these workers likely to suffer later on, in the course of years, from the slow but cumulative effects of the products of welding?

GASES: REFERENCES TO THE LITERATURE

In order to find a ready answer to these questions we had better turn to the literature, but here we find quite a diversity of opinion. Some writers believe that the hazard is both frequent and lasting, and go to the extreme of ascribing to welding almost any disease that may be found in a welder. They include a multitude of diseases as possible consequences of the welding hazard, such as tuberculosis and cancer of the lungs, ulcer of the stomach, lesions of the nervous system, aplastic anemia, and other dyscrasias of the blood. Even atrophy of the sex glands has been linked with welding. It is not surprising, therefore, that some physicians and, therefore, many patients, blame the fumes and gases for almost everything. However, it is obvious that these opinions are only speculations, and are certainly not supported by any scientific or experimental evidence. On the other hand, some firmly believe this occupation to be quite harmless, and one German writer convinced himself that welders are in better health than other workers in the same factory.

Here, then, we have the two extremes, and it must be admitted that this diversity of opinion is very confusing. This difference of opinion is due to the fact that conditions in different plants vary so much that there is no standard by which to measure or compare the results. Besides, the composition of the rods and their coatings may be very different. For this reason no one clinical investigator can speak with complete authority on this complex subject.

ANIMAL EXPERIMENTATION

So we had better turn to animal experimentation, where the conditions can be fixed or varied at will and the animals sacrificed afterwards, in order to find any changes in the tissues on postmortem examination.

It must be said at the outset that the number of experimental investigations is not great. It was, indeed, not until 1935 that the first experimental work on animals was done by Drinker¹ and his associates at the Harvard School of Public Health. This group of investigators exposed cats and rabbits to the welding fumes of bare uncoated iron rods and found that they all developed a severe inflammation and hemorrhage of the mucous membrane of the respiratory tract which, in some cases, resulted in fatal pulmonary edema. These effects

were not due to the fume particles of iron oxide, which could be filtered out, but to the gases generated by the arc, namely, nitrogen dioxide and ozone. It must be remembered, of course, that the animals that died had been exposed to more than three times the concentration of gases found around a welder even in a poorly ventilated shop. It was concluded, therefore, that acute pulmonary edema, or pneumonia, is caused only when the concentration of gases is very high.

More recently, in 1940, Harrold, Meek, and McCord,² at the Industrial Hygiene Laboratories in Detroit, again investigated the simplest form of arc welding with washed bare iron rods, and found that the danger from nitrous gases was not as great as was formerly thought. They were not able to produce acute pulmonary edema in their animals, although they exposed them repeatedly for prolonged periods, but some developed pneumonitis. It was also found that the iron, and even the manganese, fumes were not specifically harmful, and that ozone, known to be irritant, was not present in the surrounding atmosphere in sufficient quantity to cause harm. Thus, the entire absence of pulmonary edema speaks well for this simple type of arc welding, so long as it is not carried out in confined spaces where the ventilation is imperfect.

As, however, no investigations had been carried out with coated rods, Hamm and Groom⁴ of Ohio State University, undertook an experimental investigation of the pathological effects of coated or shielded rods on various animals in order to discover which coatings were toxic and which were not. They found that the incidence of serious lesions was relatively low, and that over 50 per cent of their animals survived without any harmful effects at all. Some of them became pregnant during the welding experiments and bore healthy litters. They did not lose weight, and showed no disturbances in their living habits. The low death rate of the animals, even when exposed to high concentrations of welding fumes and gases, can be taken as evidence of the low toxicity of the welding products; and at industrial concentrations, which are much lower than in these experiments, the hazard from modern welding with coated rods cannot be great. Some rods, however, namely, those containing fluorides, were found to be more toxic, and that is one of the reasons why the U. S. Navy has discouraged the use of such electrodes.

COMMENT

These investigators, therefore, drew the conclusion that in modern welding, which is usually done with coated rods, if precautions are taken to prevent the inhalation of high concentrations of fumes and gases, the risk to health is not great. There may be some irritation of the throat and bronchial tubes, but there need be no serious hazard to health even from prolonged and repeated exposure, so long as ordinary precautions are taken.

That exposure to welding fumes and gases, over a period of many years, produces no permanent functional impairment in welders was proved by Sanders of Milwaukee,³ who, in order to contro-

vert the conclusions of some English investigators, examined twenty-six welders with an average of nineteen years' work. As a result of his investigation, he was able to show that the lungs of welders do not appear to be more susceptible to tuberculosis. He also noticed that, as a group, welders are less susceptible to ordinary colds than other workers.

More recently, Gardner and McCrum⁶ of Saranac Lake devised experiments to determine whether the susceptibility of animals to tuberculosis is increased by the fumes and gases of arc welding. They found that, even in guinea pigs, repeated exposures to ordinary concentrations did not increase the normal susceptibility of the animals, nor did such exposures reactivate any preëxisting, partially healed, pulmonary tubercles, or produce progressive tuberculosis.

PREVENTIVE MEASURES

However, most investigators caution that welding of any type should not be done in confined spaces, even for short periods of time, without taking certain precautions. We may now ask, what are these precautions? They are mainly a problem for the engineer, but the principle is simple. The fumes and gases must be prevented from reaching the worker. If possible, welding operations should be carried on in a closed process, or if that is not practicable, then a system of exhaust ventilation with hoods must be fitted over the process. A portable exhaust ventilator may also be used to remove the fumes at the source, and this ventilator can be carried along with the work from place to place. This is very convenient if the welding is done in confined or poorly ventilated places, such as tanks, boilers, or double bottoms. Special attention to ventilation is necessary in working with materials that have a high zinc content, like galvanized pipes, or if the steel contains cadmium, which is very toxic, or if the flux contains fluorides.

Respirators should be worn by the operators, particularly if the exhaust blowers are not quite efficient, or if, for some reason, they cannot be used. Apparently, for one reason or another, some of the men do not like to wear any respirators. It would be well, therefore, if talks could be given to the men, and particularly to the foremen and leadmen, in order to obtain their intelligent coöperation in the use of these safety measures. It is also important to remember that where metal sheets are covered with lead paint and have to be cut by the acetylene torch or by the electric arc, there is a serious danger of acute lead poisoning. These lead fumes, even if the concentration is small, must be kept away from the workers by blower and respirator and mask. For, while zinc oxide is promptly eliminated from the body and, therefore, produces no cumulative effects, lead is stored in the body and the effects are definitely cumulative.

DIAGNOSIS AND TREATMENT

And now a final word about diagnosis and treatment. As we have seen from the case histories, it is not always possible to make a diagnosis from symptoms and signs alone. In most cases very few

signs can be found, even on thorough examination. Nor does an x-ray of the chest often show anything unusual. The physician will, therefore, have to make up his mind from a careful and critical consideration of the history given him by the patient. Often he will have to discount the inaccuracies, the exaggerations, and the misleading statements that creep into the patient's story. Only by obtaining his occupational history, as well as the exact nature and circumstances of his exposure, and then harmonizing these with the meager findings on examination, can the physician hope to make a fair and satisfactory diagnosis of the condition before him. Then he will have to treat not only the condition, but also the patient.

As for metal fume fever, which so mimics an attack of "flu" or grippe, there is no specific remedy, but the treatment may be similar to that of the "flu." Thus, aspirin, grains 10, may be given every four or six hours for the aches and pains; and, if there is a distressing dry cough, codein, grain one-half to one, may be added. In some cases, the inhalation of steam with tincture of benzoin compound seems to take the rawness out of the laryngeal, tracheal and bronchial mucous membranes. Patients have told me that such an inhalation seems to "touch the spot!" Occasionally, patients expressed a firm belief that a weekly steam bath, Turkish or Russian, helped them to get rid of the effects of the fumes on the chest. Morphine, however, should not be given, because of its depressant action on the respiratory center. Hot drinks are indicated, and fruit juices are useful unless the stomach is very irritable. Of course, the milder cases will not need any treatment, unless the patient shows much nervousness or anxiety about his condition.

Those patients who have possibly been exposed to nitrous gases in high concentration, such as may happen in small enclosed spaces, should be kept quiet for twenty-four hours, with medical attention easily accessible. This is necessary in case a serious emergency arises six or more hours after exposure. The inhalation of ammonia vapor obtained from the carbonate of ammonia has been recommended, but the inhalation of 5 per cent bicarbonate of soda mist seems more desirable. In anticipating pulmonary edema that might set in, it is well to maintain good oxygenation by giving oxygen for ten or fifteen minutes every hour or so. If pulmonary edema has developed, and the patient's face appears cyanosed, or the fingernails are definitely blue, a venesection of 500 cubic centimeters of blood may be life-saving. Transfusions or infusions should not be given, for fear of increasing the edema of the lungs. Morphine with atropine used to be a favorite and effective treatment for acute pulmonary edema. The result was often a cessation of the profuse watery and bloody expectoration, followed by a dramatic recovery; but it is now felt that morphine may depress the respiratory center to a dangerous level. Codein and barbiturates are considered safer. As for cardiac stimulants, it is best to do without them, or use them sparingly. Besides, oxygen and venesection will be found more useful. Even when the acute

pulmonary edema has subsided, the patient has to be kept under observation for a few weeks, because of the possible late onset of pneumonia or the development of inflammation of the smaller bronchial tubes known as bronchiolitis obliterans.

PSYCHOLOGIC REACTIONS

Having treated the patient's illness, what about the patient himself? As I pointed out at the beginning, the patient seems to look upon galvanized fumes as a pernicious and sinister agent. He has, somehow or somewhere, been imbued with a deep suspicion and an exaggerated fear of the consequences of welding fumes. He will not do well or recover fully unless we can exorcise this exaggerated fear. If we fail to allay his fears, he is apt to develop what, for want of a better name, we can call a "fumes neurosis," and he will continue to feel exhausted, without pep or ambition. He will then become more and more indisposed to return to work. Although we call this condition a neurosis, strictly speaking it is most often a sort of hysteria. It is really an hysterical reaction to an accident by a person with an underlying neurotic personality makeup. In other words, the patient makes unconscious use of the accident or illness to solve his personality difficulties. I repeat that the patient is not aware of this trick, or alibi, played by his subconscious mind. It seems as if the accident brings to a head those inner and outer complexes which he has been unable to solve normally or face squarely. The accident is, indeed, a cause of this hysterical reaction, but only a precipitating cause, for the ground is prepared by his personality makeup.

It is also true that the expectation of compensation plays a rôle, but it is not the chief rôle; and it is important that the physician realize this, for such patients are sensitive and touchy. The approach to them must be psychological. It is not wise to declare bluntly that there is nothing wrong with them, for such a statement is neither convincing nor complimentary. It is better to take an x-ray film of the chest, because in most cases the patient has a lurking fear that the fumes have damaged his lungs. This film should be shown to the patient, and the heart and lungs pointed out, in order that he may be convinced that the fumes have not damaged those "vital organs." If he is still unconvinced, he should be shown a normal film side by side with his own. That should convince him, because "x-rays don't lie." A nerve sedative will do the rest.

IN CONCLUSION

We may conclude this paper by repeating that welding is not really a hazardous occupation, provided the concentration of fumes is kept at a low level. It may also be stated that although, after many years of welding, the lungs may show certain fibrotic or nodular changes which, in an x-ray film, may remind one of early silicosis, there is neither the shortness of breath nor the tendency to tuberculosis which is seen in silicosis. It is important that the physician realize the essential harmlessness of these so-called "spots on the

lungs," so that he may be able to explain away the fears of his patient and reassure him honestly and effectively.

1019 Avalon Boulevard.

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HEALTH CONTROL IN WELDING*

PHILIP DRINKER, D. SC.
Washington, D. C.

IN the contract shipyards of the Maritime Commission and Navy we have today over a million employees. The yards themselves vary in size from a few thousand to 40,000. In many cases they are built on made land, and the workers are drawn literally from all walks of life. A maritime yard is lucky if it has more than a few per cent of workers who were shipbuilders before the war—the vast majority are green workers who have learned all they know about shipbuilding right in our yards since 1941. Jobs, such as welding, are about the same in all Maritime Commission yards, for there is little difference, from the health standpoint, in the way a freighter is built in Portland, Maine, in Houston, Texas, or in Portland, Oregon.

PRE-OCCUPATION EXAMINATIONS

On the East Coast, the Gulf, and on the Great Lakes, it is usual for new workers to be given preplacement physical examinations. In general, check-up examinations of men working on cranes, trucks, and the like are given at regular intervals; also jobs with possible occupational disease risk are checked from time to time. On the West Coast, however, the labor contract,¹ page 14, governing most of the region stipulates that:

"There shall be no doctor's physical examination nor age limit, except as required by law."

The Maritime Commission fully recognizes the validity of obligations existing under collective

* Guest speaker, presented at the seventy-second annual session of the California Medical Association at Los Angeles, May 3, 1943.

Author is Chief Health Consultant, U. S. Maritime Commission, Washington, D. C.

bargaining agreements, and with respect to physical examinations which would exist as a condition preceding employment, feels that the provisions in the Minimum Requirements for Safety and Health² do not present any direct conflict with the prevailing obligations of contractors on the Pacific Coast. The distinction must be made that the purpose of the physical examination provided for under the Minimum Requirements is based upon public policy directed toward insuring safe and competent workmen in particular jobs, and such examination is not a prerequisite for employment, occurring after employment but before placement on the job. This distinction should be borne in mind in considering the text of the recent Safety and Health Standards:

H-6. Examinations.

6.1. Physical examinations to insure proper placement of employees shall be given.

6.2. Periodic check examinations shall be given men working in occupations potentially hazardous to themselves or others, as for example, to crane operators, locomotive and hoisting and portable engineers. Periodic check examinations should be given men in jobs in which there may be health hazards, as for example, to sand blasters, radium and x-ray workers, and paint sprayers.

6.3. Special examinations such as x-ray, serologic and urinalyses should be given in the individual case as indicated and in accordance with local needs.

As these standards have been accepted by a national conference attended by representatives of management and labor in shipbuilding yards holding Maritime and Navy contracts and have been approved by the Navy and by the Maritime Commission, it is expected that, on a sound and practical basis, preplacement examinations on the Pacific Coast gradually will be extended as the necessary machinery and personnel become available.

OREGON STUDIES

Recently, Doctors Menne, Beeman, David, and Hunter of the Oregon Medical School investigated clinically some forty men and their working environment in the Oregon Shipbuilding Corporation[†] and published a report on their findings.³ The yard employed, as of January 1, 1943, 32,843 workers. Of this number about 6,000 were welders, a normal proportion. As the Portland yard did not exist in 1940 and was about a year in building, most of the shipyard workers there, including welders, could not have had any extended shipyard experience. The report states (page 21) that the "length of service and, therefore, the possibility of exposure, usually varied from three weeks to eighteen months. Thirteen worked from one to six months, eleven from six months to one year, and the remainder from one year to a year and a half. A few were exposed for only a day or two."

The Menne report implies that further investigations are pending, but from the text of the published material, one must be satisfied with statements such as these (page 25):

It is fair to assume in the study of a group of individuals of this kind that there is sufficient evidence to warrant the

conclusions that occupational fumes, gases, and dusts—are sufficiently hazardous, in certain locations, to *per se* cause disease processes in the lungs and the air passages. It also seems to us that regardless of a possible difference of opinion as to the seriousness of such clinical diseases, the conditions causing them can and should be corrected.

The evidence which Menne presents that things are amiss, or that novel industrial diseases are present in the shipyards, is far from clear.

ON AMOUNT OF EXPOSURE TO WELDING FUMES

In the Portland yard—and it applies equally to other shipyards using welding processes in a substantial manner—at least half the workers have, in legal parlance, some exposure to welding fumes. It is timely, therefore, to discuss briefly the effects, upon man, of breathing such fumes. One of the oldest industrial maladies we have is metal-fume fever, otherwise known as zinc shakes, brass chills, brass ague, and more recently as galvo. In the manufacture of brass, metallic zinc is added to molten copper. The boiling point of zinc happens to be about 100 degrees centigrade less than the melting point of copper. Consequently, a copious evolution of zinc vapor results immediately on adding zinc to the molten copper. The zinc vapor burns to the yellowish white oxide of zinc, ZnO, which rises as a cloud.

Galvanized iron is iron or steel coated with zinc. The zinc is applied in such a manner that a fairly strong union or alloying between the two metals results. In ship construction we use a certain amount of galvanized metal to prevent too rapid corrosion by sea water. When galvanized metal is welded, the heat of the torch or of the arc boils off some of the zinc, which rises as zinc oxide smoke exactly as in the manufacture of brass.

SYMPTOMS

If a workman breathes zinc oxide fume or smoke in sufficient amounts and for a sufficient length of time, he may have an attack of metal-fume fever.⁴ After a half hour or so he may note a substernal pain on taking a deep breath, and while this does not become serious an attempt at deep breathing may elicit an unproductive cough. Violent coughing or vomiting is rare. A metallic taste gradually may develop. After about four to six hours the body temperature begins to rise, usually following a premonitory chill. This chill may develop into a real malarial-like shake—hence the name "zinc shakes." The fever may go as high as 103 degrees Fahrenheit or even more—I have recorded a 103.5 degrees Fahrenheit on myself—and gradually will subside, until twelve hours later the body temperature is usually normal.

The leukocyte count will begin to rise within an hour or two following exposure—well before the body temperature rises—and will remain above normal for some hours after the temperature has subsided. Differential counts show that the rise in white cells is due to increased polymorphonuclears. If a second zinc oxide inhalation is taken when the temperature has returned to normal but with the leukocytosis present, there is apt to be no reaction. Apparently, the leukocytosis offers some

[†] A Maritime contract yard at Portland, Oregon.

measure of protection. At any rate, attacks of metal-fume fever on two successive days are rare, and men usually say they get it most easily after a lay-off. We had no difficulty in confirming these general facts by breathing zinc oxide ourselves.⁵

Another point to be stressed is that the effects are not cumulative. Animals subjected to heavy concentrations eliminate the zinc oxide rapidly—it is all gone in a day or so. There is no storage in any part of the body, nor could we find in examinations of men who had been exposed daily to zinc oxide for as long as twenty years, that their health was affected in the slightest degree. Metal-fume fever apparently does not predispose to tuberculosis or any other respiratory disease.

STEEL-PLATE WELDING

In welding steel plates, iron is boiled off by the arc or by the gas torch and burns to ferric oxide, Fe_2O_3 , which rises as smoke or fume of a rusty appearance. Deposits of the fume on white cloth look like a rouge, for that is exactly what it is chemically. If men or animals breathe rouge powder, no systemic effect results. There is no metal-fume fever. However, animals exposed repeatedly do not eliminate ferric oxide the way they eliminate zinc oxide. The deposits seem to remain. Perhaps the lesser solubility of Fe_2O_3 in body fluids accounts for the iron noted by Enzer and Sander⁶ in their autopsy report on a welder who died in an accident.

If one strikes an arc, a minute amount of NO_2 gas, nitrogen peroxide, is formed. The process is nitrogen fixation, and is one of the steps by which nitrogen of the air is converted commercially into nitric acid and nitrates. This gas, NO_2 , is toxic and will produce fatal lung edema if breathed in excessive dosage. It is a lung irritant and can, likewise, irritate the trachea and bronchii. In commercial welding, as in ship construction, there is little or no danger of gas poisoning, but there are times when ventilation of welding jobs undoubtedly is inadequate. With poor ventilation of closed jobs the atmosphere is unpleasant and may cause coughing. We know this should not be, and we admit that fume and smoke concentrations sufficient to reduce visibility occasionally occur, but the evidence from our yards all over the country is that these effects, such as cough, are transitory. Gradually we are improving ventilation and are supplying adequate masks or respirators, to be worn beneath the welding helmets when ventilation is impracticable.

ELECTRIC WELDING

Electric welding first used bare rods or bare electrodes. Now it is usual to have rods coated with various inorganic substances and some organic binders. The purpose of the coatings is to create a reducing atmosphere immediately around the molten pool so that the weld will not be unduly oxidized. There is no magic in these rod coatings. The manufacturers have patents covering them, but their chemical composition is known, and the gases and fumes which they give off are in no way mysterious.

LEAD POISONING

The priming coat of paint in our Maritime freighters contains, as pigment, red lead. It is common shipyard practice to paint out in the yard small parts and even some deck and hull plates before they are welded into place. This saves time. The risk of lead poisoning to the welders who must weld such painted metal into position is recognized. The heat of the welding arc boils off some of the lead and the welder breathes the lead fumes evolved. It is the rule to leave four inches or so along the edges unpainted and the painters go over this surface later. We have not yet assembled reliable figures on lead poisoning in our shipyards, but all evidence indicates that we have recognized the danger sufficiently soon to escape it by these simple preventive measures.

RE: STERILIZATION

It will surprise the medical profession to learn that we have had considerable unrest among both women and men welders because rumors had reached them to the effect that the welding arc gave off "x-rays which could cause sterility." It is our job to stop such gossip as it can easily assume serious proportions. We pointed out immediately that the medical profession was well aware of the sterilizing action of x-rays; that the machines which are used to cause sterility usually operated at 100,000 or 200,000 volts; that welding machines all operate at twenty to eighty volts and could not produce any x-rays at all.

EARLIER STUDIES

Doctor Menne and his colleagues evaluate as "piecemeal" (page 5) prior studies of the health risks in welding. In 1938, Enzer and Sanders⁶ reported upon the lung changes in welders who had had abundant industrial experience. In 1940, Britton and Walsh⁷ of Northwestern University Medical School reported upon the examination of 286 men who had welded more than five years.

In 1940, too, Harrold, McCord, and Meek⁸ reported finally on extensive studies on animals and men exposed to welding fumes and gases. In 1942, Gardner⁹ showed that animals with tubercular lesions are not further harmed by comparatively heavy exposures to welding fumes.

COMMENT

Careful appraisal and study of the work above mentioned leads to a definite conviction that it can in no sense be regarded as of the piecemeal variety, and we cannot conceive of its dismissal in such summary fashion by any reasonable and clear-thinking individual.

In 1927, Drinker, Thomson, and Finn¹⁰ suggested figures of threshold concentrations of ZnO in workroom air so that ventilation requirements could be computed therefrom. In 1935,¹¹ these suggested standards of air purity were extended to include Fe_2O_3 from welding iron and steel as in shipbuilding, and the figures were modified further in 1941.¹² Doctor Menne's report quotes these figures and accepts them.

There has been no attempt on the part of any of these investigators cited to belittle the health risks of welding. In fact, all of us have been accused by those interested in the practical aspects of welding as having stirred up unwarranted apprehension.

No useful purpose will be served by detailing the technical errors, especially in engineering, in the report of Doctor Menne's committee. We do not question the authors' good faith or good intentions. We agree with most of their eleven final recommendations, for many had been adopted last December in our Health and Safety Standards. We disagree with others. We would welcome improvements in goggles, helmets, air masks, or anything of the sort, but we cannot and will not recommend the general use in our yards of any protective equipment which has not been tested and approved by a reliable agency, such as the Bureau of Mines or Bureau of Standards.

STAFF OF THE MARITIME COMMISSION AND THE NAVY

The Maritime Commission and the Navy set up last December¹³ a permanent staff of Safety and Health consultants for all of the contract yards in the country. Our physicians, industrial hygienists, and engineers know thoroughly what conditions are like in double bottoms, deep tanks, and refrigerator rooms. We go wherever the men go or are expected to go. We examine and take samples of the air in the course of our inspections. We attempt to anticipate and to prevent accidents of all kinds. We check constantly on the ventilation equipment, goggles, safety shoes, and guards of all sorts around machinery in every yard. We check in detail on the medical and first-aid facilities and general procedures in all yards. Our men are available at all times for consultations with management or with labor.

IN CONCLUSION

We note Doctor Menne's complaint that education of the men in the risks of welding and in the proper use of their protective equipment is not always good. We quite agree, and if his committee can help us improve the teaching in our apprentice schools and training courses we would welcome their aid.

The climax of the report and its chief objective is contained in the final recommendations for the adoption of an occupational disease law in Oregon. Since the recommendation was made, such action has been taken by the State. As representatives of the Federal Government we must accept State rules and State laws as we find them, and since this is exclusively a State matter, we have carefully avoided any comment on that section of the report.

c/o U. S. Maritime Commission, Washington, D. C.

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MEDICAL SERVICE IN THE U. S. S. R. ARMY

CHARLES L. RUBENSTEIN, M. D.
San Francisco

THE most recent offensive undertaken by the Soviets has found medical science advanced to the point where it is able to cope with the needs of front and rear alike. Russia has been able to hold her losses of the wounded to less than 1½ per cent. This remarkable fact helps to explain the phenomenal strength and stability of her forces, for into her front lines returns a constant stream of seasoned veterans already baptized in the fire of bloody war and now recovered sufficiently to be a vital force in the conflict.

We can gain some understanding of the scope of the odds which have been surmounted when we realize that all the valuable equipment of institutions in cities which fell into enemy hands had to be previously removed. My own Alma Mater, Kharkov Medical Institute, I am thankful to say, is now operating in safety in the remote rear in the city of Chkalov.

While relocations such as this, which are of a magnitude to strain the resourcefulness of the most ingenious, have been carried out, the vital business of caring for the sick and wounded has had to increase rather than diminish in intensity and extent. Up to the present time, the Russians have trained 200,000 physicians as well as 600,000 male nurses to render service under fire. A dramatic illustration of the use of doctors is seen in the employment by the Soviet Army of an unusually large number of Para-doctors (doctors attached to the Parachute Corps). These men have been utilized both at the front and among the guerrilla fighters. They have even managed to organize hospitals in concealed places.

RECENT DISCOVERIES

From experiences at the front, in base hospitals and medical institutes of the Soviets has come a host of new and significant discoveries. Most of them are not only useful in the urgency of the moment, but are signposts to developments of even greater utility in the not too distant future.

The results which the medical profession has brought to light in its hot pursuit of new discoveries and ideas cover a wide range of material. We can gain an idea of these developments by a brief survey of some of these recent discoveries.

While studying changes that take place in frozen milk, one young scientist transferred his findings to human blood with the hope of learning how best to preserve it. This remarkable research won Stalin's Prize for him. It has also been brought to my attention that the Russians are doing pioneer work in utilizing the red blood cells, usually a by-product in the preparation of plasma.

Another great discovery was made when Dr. Kudryashov, the head of the Biological Department of Moscow University, isolated in large quantities thrombin, which works like magic in checking bleeding, and which is now being used extensively.

Dr. Linniks and an engineer named Maltz, have discovered a new method for producing phosphorus; the physiologist Ezra Astratyan, has developed a new method for the treatment of shock, which is being used successfully on the field of battle; and a one-jaw splint, which permits a patient to masticate food, has been introduced by Dr. Kurlyandsky for the treatment of jaw fracture.

The extensive use of a powder streptocide, which is closely related to prontosil, in the treatment of wounds has been of great value in reducing gangrene from the 15 per cent to 70 per cent in the last war to a bare 1½ per cent in the present war. This powder streptocide delays the spread of infection for some hours, until the casualty can be brought to the operating table.

Other major Russian developments in the treatment of the wounded include balsamic bandages, introduced by Dr. Vishnevsky and his son, and now widely used in all field hospitals. A new compound, related in function to vitamin K, has been made known recently; and the use of the peritonea of animals as living bandages for gaping wounds has been introduced to facilitate the healing of injuries.

Surgeons are now dealing so efficiently with even the most disabling wounds, such as those caused by blast, crush injuries, flesh burns, compression injuries accompanied by internal injuries, that there is complete recovery in most cases.

Dr. Priorov's thesis on amputation and artificial limbs has earned him the title of professor. Dr. Kapterev, who started for the far North after the outbreak of the war, has been doing some highly interesting experiments on revivifying simple organisms which have remained frozen in anabiosis for over 3,000 years.

The Soviet medical profession, realizing that, in the past, infection and disease caused more deaths and disabled more soldiers than direct war casualties, labors constantly to keep the Army and the rear free from epidemics.

In this manner, and through the many ways merely touched upon in this article, we see tangible evidence of the contributions of Soviet medicine to the heroic struggle of Russia in its attempt to accomplish the final destruction of Hitlerism—that threat to civilization.

After concluding this discussion of Soviet medicine, I cannot help but recall the enormous dividend being paid humanity at the present time for the attention given to Russian children during the early days of the Revolution. At that time, the attention of the American Relief Association was focused on children's institutions. As a representative of a certain hospital which was without the necessary dietetic products, drugs, linen, bedding, etc., I had first-hand evidence of the effect of such generosity on the well-being of the Russian children. These same children, who have become the main fighting force of the Soviet Army, are now defending their Fatherland, and at the same time returning their debt to liberty-loving people a thousandfold.

450 Sutter Building.

NERVES OF THE ARM: SOME OF THEIR AFFECTIONS; THEIR DIAGNOSIS*

ROBERT WARTENBERG, M. D.

San Francisco

NEURITIS OF THE BRACHIAL PLEXUS

FOLLOWING the later course, or in convalescence of general infections, an isolated neuritis of the whole or of a part of the brachial plexus may occur. This is usually unilateral. Its severity may vary considerably. This neuritis may be brought about by a great variety of infections, the etiology of which often is obscure. The neuritis, frequently diagnosed as brachialgia, is analogous to the postinfectious neuritis of the sciatic nerve. The upper part of the plexus is predominantly affected. The clinical picture in this case is that

* From the Department of Neurology, Division of Medicine, University of California Medical School, San Francisco.

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For convenience in presentation, the affections of nerves of the arm will be considered under their respective headings.

of the so-called Erb-Duchenne paralysis, involving the muscles supplied by C_5 and C_6 : deltoid, supra- and infraspinatus, biceps, and brachialis internus. Such a paralysis, mostly motor, may occur in a completely isolated form after serum injections, especially after antitetanus injections.

TRAUMATIC NEURITIS OF THE BRACHIAL PLEXUS

After severe, blunt, nonpenetrating injuries to the shoulder, such as a blow, fall, severe traction of the arm, the brachial plexus, though not directly injured, may suffer severe damage, may even be torn apart, and a complete motor and sensory paralysis of the arm may result. For the diagnosis of this condition, it might be helpful to remember that the sensibility of the skin on the upper inner side of the upper arm is usually preserved.

STRETCH NEURITIS OF THE BRACHIAL PLEXUS

After sudden, brisk overstretching of the arm, as in a violent movement of the elevated arm backward and outward, *i. e.*, throwing of a hand grenade, playing tennis, etc., long-standing, stubborn and painful paraesthesias in the arm and hand may develop. The quickness and sharpness of the movement is here more damaging than the range of stretching. Outspoken neuritic signs are absent, yet vasomotor-trophic changes may occur. Some constitutional disposition may play a rôle. It is justifiable to assume that we have to do here with a mild interstitial neuritis, or a perineuritis.

SCALenus ANTICUS SYNDROME

In general practice the scalenus anticus syndrome—the so-called Naffziger syndrome—is frequently found. Its outspoken features are painful phenomena in the arm due to mechanical irritation of the brachial plexus as it passes over the first rib between the scalenus muscles. Operation—sectioning of the scalenus anticus muscle—brings prompt relief, and produces splendid permanent results. It is most essential, however, to select the proper cases for operation, since the causes of arm pain are extremely diversified. The question that arises always is: what is the cardinal, the obligatory sign of this syndrome? The answer is: tenderness to pressure over the lower end of the scalenus anticus muscle at its attachment to the first rib. This tender point is directly above the clavicle, lateral to the clavicular attachment of the sternomastoid muscle. This unilateral tenderness may be the only objective finding in this syndrome, and is usually very outspoken. So outspoken, indeed, that one should hesitate to diagnose the syndrome with certainty if this sign is not present.

BRACHIALGIA STATICA PARAESTHETICA

Not uncommonly, middle-aged people complain of paraesthesias, numbness or pain in the arm during sleep. These signs occur especially in ulnar distribution, and may affect, not the arm on which the patient lies, but the other arm. It is not easy to explain the exact mechanism of this syndrome, but certainly it is due to pressure on the immobilized

nerves near the first rib. Constitutional anomaly in the course of the brachial plexus may play a rôle. The last word on this subject has not yet been spoken, but one can say with some degree of certainty that it is *not* a scalenus anticus syndrome, *not* a cervical rib, *not* a spondylarthritis, and it must be sharply differentiated from these conditions. It is a benign, nonprogressive condition, has a self-limited course, and is a definite clinical entity. Exercises to lift the elevators of the shoulders, diathermy, etc., of the plexus are often beneficial.

CERVICAL SPONDYLARTHROSIS

In all the above-mentioned conditions affecting the arm nerves, x-rays of the cervical spine are taken routinely. Usually a cervical spondylarthritis of more or less advanced degree is found in adults. We are *all* too easily led into making this cervical spondylarthritis responsible for every possible sign and symptom on the part of the arm nerves. For many years, in common with others, I, too, made this error. After having persistently treated a patient for spondylarthritis, I often found that he suffered from some other condition. The importance of spondylarthritis has been generally overestimated. Every adult has a spondylarthritis of some degree, but usually it does not produce any signs or symptoms of the arm nerves. X-rays of the adult cervical spine commonly present an unexpected picture of spondylarthritic changes, even though they represent only the normal wear and tear on the vertebrae. However, these x-ray findings are clinically, neurologically insignificant. Occasionally, we may even see a dislocation or collapse of the vertebrae without neurologic signs. It is certainly true that compression of the nerves by an extreme cervical spondylarthritis, especially of a localized nature, occurs; but this must be regarded as very rare, and there must be special and compelling reasons to assume a connection between cervical spondylarthritis and arm nerve involvement. In any event, if a patient has a neurologic condition of his arm, together with a cervical spondylarthritis demonstrable by x-ray, it does not necessarily mean that this cervical spondylarthritis is at the root of his complaint.

NEURITIS OF THE SENSORY NERVES OF THE ARM

The sensory nerves of the arm—those supplying the skin exclusively—may be affected singly or in combination with other sensory nerves of the body. Such a sensory neuritis leads to numbness, paraesthesias, and eventually to pain in the area supplied by the nerve. The leading objective sign is pain appearing on stretching of the diseased nerve. On the arm, the nervus cutaneus antebrachii medialis may be affected, with resultant hypaesthesia on the inner side of the forearm. This may occur after general infections of any kind and is a harmless condition. More commonly affected is the ramus superficialis nervi radialis (cheiralgia paraesthetica). A concomitant affection of some other distant sensory nerve is not unusual. General infection or mechanical conditions, such as pressure of a tight strap of a wrist watch, may be the cause.

Test for Ulnar Palsy.—The most dependable test for ulnar palsy is the "newspaper sign" of Froment. Here a patient, holding a newspaper between his thumb and index finger, flexes the distal phalanx of the thumb in order to hold the paper more tightly. This is due to the weakness of the adductor of the thumb innervated by the ulnar nerve, and to the tendency of the patient to substitute this muscle by the intact flexor of the thumb innervated by the median nerve.

Thus, if this sign is positive it indicates not only that the ulnar nerve is damaged, but that the median nerve is intact. A further sign of ulnar palsy is the tendency of the patient to keep his little finger abducted. This is easy to understand: the abduction and adduction of the little finger is a function of the ulnar nerve, but the abduction is also performed by the musculus extensor digiti minimi, innervated by the radial nerve. If the ulnar nerve is damaged, and the radial intact, the action of this extensor muscle is unopposed, and abduction position of the little finger results. The tendency, then, is for the little finger to assume the position of abduction. This sign may be the very first and a very late manifestation of ulnar palsy.

Test for Median Nerve Palsy.—To reveal a median nerve palsy, we usually examine the opposition function of the thumb. But it is difficult to distinguish real opposition consisting of rotation of the thumb around its longitudinal axis, from the so-called "pseudo opposition" consisting of adduction of the thumb, performed by the ulnar nerve, and flexion by the long flexor innervated by the median nerve which is intact in lesions of this nerve at the wrist. Further, it must be taken into consideration that the thenar muscles which participate in the opposition, usually innervated by the median nerve, may be—to a varying degree—innervated by the ulnar nerve. It is, therefore, better to rely on the abduction of the thumb as an indicator of the function of the median nerve, since the abduction is an exclusive function of this nerve. On this is based the following test: the patient brings his inner fingertips together in a roof-like position at such an angle that the tips of the thumbs maximally abducted at right angles to the palms can touch each other. If median palsy is present, the tip of the thumb on the affected side is horizontally higher, due to deficient abduction.

PARTIAL THENAR ATROPHY

In speaking of median nerve palsy, it is worth while to mention that a median nerve neuritis should be distinguished from another condition called "partial thenar atrophy," that constitutes a definite clinical entity. In partial thenar atrophy we have an atrophy of the muscles located on the outer, radial side of the thenar: of the musculus opponens pollicis and of the musculus abductor pollicis brevis only. The affection may be unilateral or bilateral. The development of the atrophy is extremely slow. There are no objective sensory changes. It is apparently a chronic degeneration of these phylogenetically young muscles, and not a neurogenic affection.

University of California Medical Center.

MEDICAL EPONYM

Negri Bodies

The results of the studies made by Adelchi Negri (1876-1912) as an assistant in Golgi's pathology laboratory at Pavia were first presented before the Società Medico-Chirurgica at Pavia, March 27, 1903. "Beitrag zum Studium der Aetiologie der Tollwuth [A Contribution to the Study of the Etiology of Rabies]" appeared in *Zeitschrift für Hygiene und Infektionskrankheiten* (43:507-528, 1903). A portion of the translation follows:

"The phenomenon to which I wish chiefly to direct attention is first the occurrence of a peculiar microorganism in the nervous system of rabid animals; everything leads us to believe that this is to be considered a protozoön. . . . Almost always, the favorite site for the microorganism is the Ammon's horn—always if the infection is subdural. In this region, especially in the larger nerve cells, the parasites are present in large numbers."

In a paper, "The Etiology of Rabies: The diagnosis of rabies on the basis of new discoveries," which was read before the Società Medico-Chirurgica at Pavia, July 14, 1903, and appeared in the above journal (44:519-540, 1903) under the title, "Zur Aetiologie der Tollwuth: Die Diagnose der Tollwuth auf Grund der neuen Befunde," Negri made the following statement:

"On the basis of my studies, I have concluded that this microorganism, which is found solely in the nerve cells of the rabid animals, is the specific exciting cause of rabies."—R. W. B., in *New England Journal of Medicine*, Vol. 226, No. 13.

MEDICAL EPONYM

Schüller-Christian's Disease

Professor Artur Schüller (b. 1874), of Vienna, wrote a paper, "Ueber eigenartige Schädeldefekte im Jugendalter [Peculiar Skull Defects in Children]" which was published in *Fortschritte auf dem Gebiete der Röntgenstrahlen* (23:12-18, 1915). He described three cases, and a translation of his conclusion is as follows:

"Each of these briefly outlined cases represents a noteworthy and extraordinarily uncommon condition. Common to all three is the fact that there were extensive defects in the skull that developed without pain and without any cerebral symptoms of any sort—practically without symptoms of any kind. Neither could there be discovered in these cases any of the recognized causes for such defects in the skull. Of interest, too, is the presence of a hypophyseal symptom complex in two of our cases, namely, dystrophia adiposogenitalis in the first, and diabetes insipidus in the second. Finally, the relative rapid disappearance of the defects, which was clearly perceptible by x-ray, constituted a noteworthy feature of the second and third cases. We suggest the name "geographical skull" [*Landkarten-schädel*] as a suitable term for the peculiar appearance of the x-ray defects that we have described."

Dr. Henry A. Christian (b. 1876), Hersey Professor of the Theory and Practice of Physic, Harvard Medical School, described "Defects in Membranous Bones, Exophthalmos and Diabetes Insipidus: An unusual syndrome of dyspituitarism" in the *Medical Clinics of North America* (3:849-871, 1920). After presenting a case and referring to those described by Schüller, he concludes:

"A case is presented where, in a girl of five, there occurred the symptom-complex of very extensive defects in the skull bones, exophthalmos and diabetes insipidus. Only two other cases of this condition could be found in the literature. Diabetes insipidus suggests that the symptom-complex is due to a disturbance of pituitary function. Both of the other two reported cases showed evidence of disturbed pituitary function."—R.W.B., in *New England Journal of Medicine*.

Tuberculosis Supplement

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CALIFORNIA TUBERCULOSIS ASSOCIATION

and

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REGINALD H. SMART, M. D., *President*, California Tuberculosis Association

CABOT BROWN, M. D., *Vice-President*, California Trudeau Society

HAROLD G. TRIMBLE, M. D., *Chairman*, 1943 Annual Meeting Program Committee

GEORGE H. KRESS, M. D., *Editor*, CALIFORNIA AND WESTERN MEDICINE

* * *

FOREWORD: AN EXPRESSION OF APPRECIATION

The California Tuberculosis Associations are deeply appreciative of the courtesy extended by the California Medical Association in making it possible to present the papers read before the 1943 annual meeting of the California Tuberculosis Association and the California Trudeau Society. It is hoped that this presentation will be of interest to general practitioners.

The California Tuberculosis Associations are anxious to continue the close and pleasant association which they have always had with the medical profession of the State, to the end that all our communities may approach the ideal level of community health.

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ORIGINAL ARTICLES

Scientific and General

THE TUBERCULOSIS ASSOCIATION'S PLACE
IN THE CALIFORNIA HEALTH
PROGRAM*WILTON L. HALVERSON, M. D.
Los Angeles

TOO much credit cannot be given our tuberculosis associations for the part they have played in the advancement of the public health program throughout California. The first organization for the control of tuberculosis in this State was formed in 1902, two years before that of the National Tuberculosis Association. The original California society was called the Southern California Anti-Tuberculosis League. In 1903, the tuberculosis committee of the California Medical Association was established. These two organizations operated largely in Southern California and in San Francisco. This activity in tuberculosis control in 1903 is of interest because the first steps to organize the California State Board of Health upon a modern plan were taken in 1905, when the Bureau of Vital Statistics and the Hygienic Laboratory were established.

The activities of the California Tuberculosis Association eventually led to the organization of the State Bureau of Tuberculosis in 1915.[†] (See historical footnote in opposite column.)

In the intervening years, hundreds of influential laymen, practicing doctors of medicine, and public health workers, bound together by the Association, contributed vastly to the dissemination of information relative to tuberculosis and the ways in which the disease may spread. Since those pioneer days many activities that were considered essential in the prevention and control of the disease have been adopted or discarded, but to a great degree the basic factors in the spread of the disease are still operative, and some which seemed to have been eliminated are returning to menace the health and welfare of our people.

CALIFORNIA'S HEALTH PROBLEMS OF TODAY

The California health problem of today is not a single issue; it is composed of many problems, most of which are associated in one way or another with the devastating world-wide conflict in which we are engaged. Among them are overcrowding, particularly in the vicinity of our war industrial plants; difficulty, not alone in the control of food and food sanitation, but primarily in obtaining essential foods for all people; difficulty in providing full and complete protection for public water supplies; inadequate control of sewage disposal in many parts of the State because of the difficulty of securing essential materials; shortage of drugs and various

[†]Editor's Note.—To amplify somewhat, it may be permissible to add some historical data:

At a meeting of the Southern California Medical Society, Francis M. Pottenger, M. D., of Monrovia proposed the formation of an organization to combat tuberculosis, and the California Anti-Tuberculosis League came into being in May, 1902, with Doctor Pottenger as president and the late Charles C. Browning, M. D., as vice-president.

This society was the seventh anti-tuberculosis society to be formed in the United States and preceded the organization of the National Tuberculosis Association, which in its beginning had the name National Society for the Study and Prevention of Tuberculosis.

Conforming to the new name of the national organization, the Southern California Anti-Tuberculosis Society changed its name to become the Southern California Society for the Study and Prevention of Tuberculosis. In like manner the local Los Angeles Anti-Tuberculosis Society changed its name.

It is of interest to know that the Los Angeles Society for the Study and Prevention of Tuberculosis at a time when Dr. George H. Kress was its secretary brought out a Christmas Seal tuberculosis stamp in the same year as did the National Tuberculosis Association. The Los Angeles stamp was illustrated by the seal of the city of Los Angeles, and a reproduction appeared in the "Bulletin of the California Society for the Study and Prevention of Tuberculosis," a bimonthly publication, of which Doctor Kress was editor.

The movement for education concerning tuberculosis spread into other communities more, however, in the southern section of California than in the northern division.

In 1903 Dr. N. K. Foster of Oakland became Director of the California State Board of Public Health, and in cooperation with the late Dr. C. C. Browning of San Bernardino submitted statutes to the California Legislature asking for an appropriation to carry on official educational work. In 1905 and again in 1907 the State Board of Public Health was able to secure an appropriation of \$1,000. The Southern Pacific Railroad cooperated in 1909 by donating the use of a coach containing a traveling public health exhibit in which tuberculosis was emphasized. Free transportation was given to this coach as it was carried about the State, and much basic educational propaganda was carried on in this wise.

Dr. N. K. Foster was succeeded by Dr. William F. Snow as Director of the California State Board of Public Health. Doctor Snow later gave up his position to assume the directorship of the American Social Hygiene Association in New York, in which position he is still active. In 1911 Doctor Snow was successful in securing an appropriation of \$5,000 to provide for a study of tuberculosis by a State Tuberculosis Commission composed of an Executive Committee consisting of five members, and an Advisory Committee of fifty citizens. The Executive Committee which was appointed consisted of Dr. George H. Kress, Los Angeles, Chairman; Dr. C. C. Browning, Monrovia; Miss Katherine C. Felton, San Francisco; Mr. A. Bonnheim, Sacramento; and Dr. R. S. Broderick, Oakland.

The Executive Committee carried on its studies with the assistance of Mr. Guy P. Jones, who was loaned by the California State Board of Public Health as clerk, and who is still an employee of the California State Board of Public Health.

The report which was submitted by the Executive Committee of the State Tuberculosis Commission in 1913 suggested that two measures of importance be adopted:

(a) That a Bureau of Tuberculosis be established, same to be under the jurisdiction of the California State Board of Public Health; and

(b) That a recommendation be made to the State that adequate funds be appropriated by the Legislature whereby every county of California which would establish tuberculosis wards or pavilions that would conform to standards laid down by the State Bureau of Tuberculosis should be given a subsidy of \$3 per week per patient. The Commission's Executive Committee also emphasized the fact that tuberculosis was a community problem and registered its opposition to a State sanatorium or sanatoria. The adoption of these statutes had much to do with the progress recorded in the years that followed.

The first chief of the Bureau of Tuberculosis was Miss Edith Tate, who at the time of her appointment was the secretary of the Los Angeles Society for the Study and Prevention of Tuberculosis.

The history of the tuberculosis work in California, with particular reference to the development of county sanatoria, revolves thereafter in large degree around the official activities of the Tuberculosis Bureau of the State Board of Public Health.

During all this time, however, the California Tuberculosis Association, in conjunction with its local county, city, and district units, worked in close cooperation with the State Bureau of Tuberculosis. The funds for these organizations were raised largely through the sale of the Christmas seals, which in recent years, because of the splendid organization setup, have brought to the societies participating, funds that have permitted great expansion in the educational and other work. It is much to the credit of the Tuberculosis Associations which came into existence so early that California, in less than half a century, was able to greatly reduce the incidence of tuberculosis morbidity and mortality in the State.

G. H. K.

*From the California State Department of Public Health.
Read before the California Tuberculosis Association and the California Trudeau Society, Fresno, April 7, 1943.

medical supplies, making difficult the treatment of communicable diseases; the presence of rapidly fatal diseases, such as epidemic meningitis and others that are less common during normal times. We have the virus keratoconjunctivitis, which occurs in shipyard workers, together with other problems associated with the health of workers in our war industries. We have the continual threat of plague and typhus fever, and now there comes the potential menace of malignant strains of malaria and other tropical diseases brought to us by soldiers returning from the tropical and subtropical areas.

These war-associated conditions tend to obscure the more basic causes of morbidity and mortality which are constantly with us, some of which have been favorably influenced by control activities while others are untilled fields waiting for the plow and harrow of research and the seed drill of health education.

OVERCROWDING

Overcrowding in our war industrial areas is critical. At the same time there are a few cities where vacancies run as high as 10 per cent. However, the present practice of opening factories in nonfactory towns is apt to increase our housing problem in the towns which have so far escaped.

Health department inspectors have found improvised dormitories with bunks crudely constructed, one above another, not more than 18 inches to 24 inches apart. The passageways between these bunks were so narrow that it was almost impossible to walk between them. Court proceedings were sometimes necessary to abate such conditions. One defendant, through his lawyer, argued that the patriotic motive of providing space for war workers was the only reason for the condition, and inferred that the health inspector in bringing the action was working for the enemy.

Also, indecent living conditions are a direct cause of absenteeism on the part of industrial workers. If after a few days the worker's wife cannot find a suitable place to live, the worker will take time off to assist in the search, and if available housing in the community is below the standard to which he is accustomed he is likely to move on to another community. This is expensive to industry, to the community, and to the worker.

Losses of sanitary inspectors to the armed forces and to war industries have so depleted the staffs of health departments that adequate supervision is available in only a few areas.

In most sections of California it would be healthier to provide tent cities, with a certified water supply, than to allow the present overcrowded conditions in certain trailer camps, dwellings, and rooming houses to continue.

FOOD

Recently, by Presidential order, the nutrition section of the Office of Defense, Health and Welfare Services has been transferred to the Department of Agriculture, and now is under the direction of Food Czar Davis.

On the state and local levels, health organizations are the logical groups to take the leadership in the feeding program, and at the present time the local defense council forms the most natural channel through which to work. Health agencies, in planning the program, will soon study the work being done by every organization in the field and will use these organizations to their full capacity, giving generous credit for the work which is being done.

Careful surveys have shown that not more than 20 per cent of industrial workers, in representative plants, are securing adequate feeding. This is partially due to food shortages, but to a greater degree to the lack of knowledge or desire on the part of the individual to make proper food selections.

In Los Angeles County the industrial section of the joint nutrition committee of the City and County Defense Council has instituted a four-point program as follows:

1. The provision of a nutritious midshift meal for workers in industrial plants.
2. The provision of a lunch halfway between the midshift meal and the close of the work-day, consisting of a citrus drink and a fortified cookie.
3. Education of the worker in the choice of nutritious foods.
4. Education of the workers' wives in the selection and preparation of nutritious meals and lunches.

To activate this and other aspects of the educational program there is a great need for full-time workers to act as executive secretaries of nutrition committees.

INDUSTRIAL HYGIENE

The problem of industrial hygiene is bound up with our whole health program today. This becomes starkly apparent when we remember that, because of illness, production a year ago was decreased by the equivalent of 20 battleships, 20,000 war planes, 40,000 tanks, and millions of machine guns. A major part of illness in industrial workers is not industrial in nature.

At the Surgeon General's conference a week ago the Honorable Paul V. McNutt stated that by the end of 1943, 62.5 millions of men and women will be in the armed and labor forces. This is a major per cent of the able-bodied adults of our country, and the primary responsibility of health organizations and health workers is to maintain a level of health which will permit our workers to be at their posts of duty without interruption.

Our fighting forces have amply demonstrated that they are much more than the equal of our foes if they have the arms, ammunition and supplies necessary to fight a modern war. This is primarily a war of production and transportation, and we have not yet demonstrated that we can win it.

The motto of our fighting forces is, "The difficult we do immediately; the impossible takes a little longer." The time has come when we must see clearly that we on the home front, here in California, are an integral part of the fighting force and not an isolated group of more or less auxiliary adjuncts. This realization must cause us to re-

double our efforts in the prevention and control of disease because of the direct effect upon our industrial workers.

For example, the development of tuberculosis in the wife or child of an industrial worker will almost surely result in intermittent absenteeism on the part of the worker; and the same can be said of all chronic and, to a lesser extent, acute diseases.

The portion of the industrial hygiene program directed specifically at industrial hazards was initiated in California by the State Health Department in 1937. Insufficient funds and personnel have been a serious barrier to proper development to keep pace with war industries. The larger plants have, on the whole, well-organized accident prevention programs, but relatively few have given proper attention to plant hygiene, sanitation and the control of toxic dusts, vapors and gases.

A recent movement initiated by the industrial hygiene division of the health department to organize health committees in each plant is meeting with marked interest, and many such committees are already doing excellent work.

A ROUNDED-OUT PROGRAM IS DESIRABLE

Preventive medicine is a multi-faceted program. Whereas a few decades ago tuberculosis, diphtheria, typhoid fever and other infectious diseases were leading causes of death, today they rank well down the list and are led by the so-called chronic degenerative group.

Information relative to the prevention and control of many of these conditions is slowly being accumulated, and in some instances the time has come when health agencies must actively promote control programs. The question that immediately confronts us is how this can best be done. Shall individual agencies devoted to each condition continue to be developed, or shall the only strong organization—the Tuberculosis Association—step to the forefront. Obviously there are conditions which favor both viewpoints.

All are agreed that in a democracy health education is the most important factor in the prevention of disease and the promotion of health. Laws may be passed requiring a simple procedure, such as smallpox vaccination, but no legislation can ever induce the individual to go to his physician for the early diagnosis of what may be early heart disease, cancer, or pneumonia.

The Tuberculosis Association has proved its mettle in the field of health education. It knows how. It has the confidence of the people of every community. It has the opportunity and responsibility to enter the general field of health promotion, the like of which has never before presented itself. Already tuberculosis associations have broadened their scope of activities, and several of our prominent local associations are known as tuberculosis and health associations. This step was taken after careful planning, and its extension would, I believe, be of great benefit to the health program of our State and to the Associations. The resources and facilities of tuberculosis associations are being advantageously used, for instance, in the heart disease control.

In spite of war conditions, it has been considered advisable to initiate a rheumatic heart disease control program. Shall this be carried out by the Heart Association, or shall there be a combination of Heart Association and the Tuberculosis Association, giving the advantage of the experience and resources of both organizations? It seems to me that the answer is clear-cut, for by it both programs can, with proper guidance and planning, be strengthened.

The present emergency also presents an excellent opportunity for the Tuberculosis Association to step out into the field of promotion of the general health program. There is an interest today in health on the part of all segments of society which is placing the spotlight on the medical profession, and on voluntary and official health agencies. The U. S. Public Health Service and the Children's Bureau will, this coming fiscal year, make available to states approximately 50 million dollars to augment state health budgets. In many instances state health department budgets have likewise been increased. California's legislature has seen fit to augment the State Health Department budget by increasing the staffs of the maternal and child health and crippled children's bureaus, and by setting up staffs in public health nursing, industrial health and local health services.

I cite these increases to indicate the temper of the people of the State as expressed by their duly elected representatives. Likewise the Tuberculosis Seal sale has been the largest in history. These gains in resources have not come by chance.

The Tuberculosis Association's place in California's health program is to provide organization, leadership, funds, and special skills in the promotion of a total health program in every community where an association exists. As you go back home, reassess the health services available and do not feel satisfied until you, as a volunteer or a professional worker in a tuberculosis association, are certain that you are using your entire resources in the battle for proper feeding, housing, community sanitation, and for the control of disease.

WAR-TIME CREED FOR EVERY AMERICAN TODAY

Martin Treptow died at Chateau Thierry in 1918. In his diary was found the following statement:

"I will work . . . I will save . . . I will sacrifice . . . I will endure . . . I will fight cheerfully and do my utmost as if the whole struggle depended on me alone."

State Department of Public Health.
Phelan Building.

Placer Students X-Rayed.—During the month of January, tuberculin tests were given to the 170 junior and senior high school students at Roseville Joint Union High School, Placer County. Local physicians and nurses gave the tests. Positive reactors will be given x-rays. The program is financed by the Christmas Seal sale of the Placer County Tuberculosis Association.

THE CALIFORNIA APPROACH *

W. F. HIGBY

San Francisco

THE method of choice in tuberculosis case finding, as set forth by Plunket and others, and based on epidemiological experience, is to trace existing cases from the source—the reported case. This method is apparently sound, but can be effective only when there is adequate reporting, correlated public health nursing, adequate clinic facilities, a coöperative medical profession, sufficient sanatorium beds, and a well-organized health department.

There are few places in California where this condition exists. To obtain these facilities is the primary objective of a tuberculosis association. Many California counties are now approaching this goal. Given these facilities, there are those who say no supplementary methods need be used.

Unlike smallpox or typhoid, tuberculosis has an undetermined course. The presence of infection usually can be determined by the tuberculin test. Active disease in the lungs usually can be detected by the x-ray. The problem is to find the early case in the apparently healthy person before signs and symptoms appear.

WORK AMONG CALIFORNIA SCHOOL CHILDREN

Because school children and college students are widely accessible, these groups have been the first avenue of approach. The tuberculin testing and x-raying of positive reactors, and tracing back into the family to find the source, was begun in California with a systematic plan in 1932. With the exception of certain metropolitan areas, every school child in California has been offered this service during the past ten years, and hundreds of thousands of children have been tuberculin-tested. Tens of thousands have been x-rayed and tens of thousands of visits by nurses have been made to find the source of the infection.

This method, when first used in a given community, finds comparatively large numbers of cases. There are diminishing returns after the first few years. Generally health departments and school health departments are taking over this procedure, routinely testing the first grade, the freshmen and senior high school students. Many tuberculosis associations are still carrying on this work as an aid to the official agency.

Emphasis has been focused upon the preschool child because existence of infection is near the source and should be productive in finding cases if there is adequate follow-up and examination of all household contacts. The American Academy of Pediatrics has announced, as a policy, that tuberculin testing should be routine in pediatric practice.

CITIZEN GROUPS EXAMINED

In eighteen counties in California, routine examination of expectant mothers has become a part

of the regular program. Almost universal consent is obtained in prenatal clinics for tuberculin testing and x-raying of these women. Many active cases have been found. There is statistical evidence that the rate of tuberculosis meningitis in these counties has been reduced. There is evidence that this procedure should be fostered in private obstetrical practice.

Revision of the law by the last legislature has given great impetus to the examination of school teachers and school personnel.

Many hospitals, as a matter of self-protection, are x-raying hospital employees and nurses. A small start has been made in certain areas on the routine x-raying of all clinic and hospital admissions in general hospitals and clinics.

Dublin has suggested that case finding among foreign groups, where the death rate from tuberculosis is high, is a most productive field for case finding. The Los Angeles City Association in its Negro population, and the San Francisco County Association in its Chinese population, have shown that there is much tuberculosis that can be found in these groups. Other associations have worked among the Filipinos, Mexican, Japanese, and other foreign racial groups.

Examination of employees of mercantile and industrial establishments, of food handlers, and members of labor unions began shortly after the organization of the California Tuberculosis Association in 1904. The examinations were made by history, physical signs, and clinical inspection. Many cases of tuberculosis were found, mostly in moderate or far-advanced stages.

About 1923, numerous California associations devoted considerable attention to the organization of medical departments in industry. This was stimulated by the operation of the Industrial Accident Law. Attention to this field was diverted by the Child Health Movement, in which local associations concentrated upon nutrition, summer camps, and preventoria. Budgets were almost exclusively used in forwarding these projects.

About 1930 attention became focused upon case finding, and tuberculin testing and x-raying of school populations. Recently there has been a national trend toward a return of emphasis to the adults.

FLUOROSCOPIC EXAMINATIONS

Mass surveys of adult population began several years ago especially with the fluoroscope. These activities have been intensified during the past three years. Nine county associations own and operate fluoroscopes and thousands of adults are examined each year.

During twenty weeks of 1942 the fluoroscope, given to the State Association by the 40 and 8 branches of the American Legion, was used by nine county associations. Approximately ten thousand persons were fluoroscoped during this period and nearly a thousand were referred for standard 14 by 17 films of the chest. The State fluoroscope is scheduled for constant use during 1943.

Alameda County was the pioneer in the use of the fluoroscope in mass surveys, beginning in 1935.

* From the secretary's office. California Tuberculosis Association.

Read before the California Trudeau Society and the California Tuberculosis Association, Fresno, April 7, 1943, in the symposium on "War-Time Tuberculosis Case Finding."

San Francisco followed with this method of mass case finding. Scores of groups have been surveyed, and each year thousands of adults have been examined. Some of this work has been reported in the literature. Reports of the use of the fluoroscope by other county associations will be given at this meeting.

Coincident with the use of the fluoroscope in adult case finding there has been extensive use of 14 by 17 film in practically every county. In 1942 there were 2,529 x-ray films read from twenty-two rural counties by a panel of consultants for the State Association, and many others were read in local communities.

Trucks with portable 14 by 17 x-ray machines are operated by three county associations. Three county associations own and operate standard 14 by 17 x-ray equipment.

With the introduction of practical, portable, miniature x-ray film machines, the trend is toward the use of this apparatus for mass case finding in the general population.

In 1930, we set as our goal that every high school child in California should have an opportunity to have a tuberculin test, and, if positive, an x-ray by 1940. This has been accomplished. It is my conviction that it is not too ambitious a program to set as a new goal, that by 1950 every adult in California shall have had an opportunity for an x-ray of his chest, provided either by his private physician, by his tuberculosis association, or his county health department.

Two county associations, Orange and Santa Cruz, have purchased, and have in operation, 35 mm. Westinghouse photofluorographic units. The Sacramento County Association has ordered such a unit and has all priorities cleared. Four other associations have recommendations before their boards of directors to purchase such equipment, and Yolo and Solano have authorized purchase of the units.

Los Angeles County and Los Angeles City Associations have jointly purchased a General Electric portable photofluorographic stereo equipment mounted on a truck. This equipment has been delivered. The California Tuberculosis Association has also purchased identical equipment and delivery will probably be made in July. This latter equipment will be rented at operating cost to the local associations of the federation.

The Santa Clara Association has purchased similar equipment, which will be built in a trailer. The Pasadena Association has ordered a semi-portable 4 by 5 unit, which will be housed at their headquarters.

With all of this equipment in full operation, and with thousands of California men and women being x-rayed by the Army, Navy, Coast Guard, and United States Public Health Service, a real beginning will have been made in the conquest of tuberculosis. By September the California tuberculosis associations will be x-raying approximately 6,000 apparently well adults each week.

In facing mass case finding, as of 1943, it is well to note certain changes in the concept of tuberculosis concurrent with the perfection of the x-ray;

the advance of surgical and clinical procedures, and with the development of full-time health departments.

When organized tuberculosis work was begun forty years ago, certain facts were apparent and measures to combat tuberculosis based on these facts were inaugurated. It was learned:

1. Tuberculosis was either consumption or tuberculosis of the bones or glands.
2. No methods were available to obtain early diagnosis.
3. In the majority of cases the diagnosis was the death warrant.
4. There was little effective treatment available except bed rest.
5. Ninety per cent of the population had been infected.

Methods to combat tuberculosis were established as follows:

1. The reporting of cases.
2. Establishment of clinics to diagnose tuberculosis by the crude methods then available.
3. Sanatoria beds, designed primarily for segregation of the sick from the well, were built.

MORE RECENT CONCEPTS

During the past decade new facts in relation to tuberculosis have been emerging which change our whole concept of the disease and of case finding. Let us compare these new concepts with those at the beginning of our campaign.

1. Early pulmonary tuberculosis may be recognized by x-ray examinations.
2. Most physicians can be trained to diagnose the disease in its early form.
3. In most cases, when discovered early, the course of the disease is short.
4. Active methods of treatment are available for all stages of disease.
5. Studies have shown that from one-half of one per cent to three per cent of the adult population has tuberculosis in a communicable form.
6. Tuberculosis of bovine origin has been virtually eliminated.

CONCLUSIONS

From the economic point of view it would seem logical that every citizen in California, regardless of economic status, should be entitled to a miniature x-ray film of his chest as a service for his purchase of Christmas Seals. As a protection of the medical profession, the procedure should be defined as the screening method to detect the cases of clinical tuberculosis in order that they may be removed from contact with their fellow citizens and placed under medical care.

The survey should not be considered a regular diagnostic procedure nor an assumption of responsibility in the field of medical treatment. In all cases when there is evidence of chest disease or abnormality, the patient should be referred to his own physician. The procedure should be considered only as a case finding procedure to search out among the general population those persons who need medical care and are not aware of it.

45 Second Street.

THE TUBERCULOSIS ASSOCIATION'S PLACE IN THE CALIFORNIA HEALTH PROGRAM *

MRS. HAROLD K. MOSLE
Ventura

WHAT is the objective of Public Health? There have been several definitions given, but this seems to cover the subject briefly: it is the prevention of unnecessary illness and premature death.

What is the objective of a Tuberculosis Association? Authorized forms of tuberculosis work state "that it is the education of the individual and community, to the end that tuberculosis may be prevented and adequate provision be made available for diagnosis, treatment, and rehabilitation."

In both of these objectives we have one outstanding similarity, the word "prevention." Therefore, we might say that, from a broad outlook of public health, both have the same purpose in mind, although this Association's work to this point has been specifically tuberculosis.

There has been a marked trend in the past two years toward generalization of our health education programs, and the effect of the war may speed up this trend. One cannot isolate our health education programs for tuberculosis from health education generally.

Briefly, we are now faced with the fact that California is rapidly becoming an industrial state. With this development, we will have the usual accompanying problems, such as overcrowded housing conditions, inadequate medical and hospital care, overtaxed sewerage systems, improper food sanitation, and inadequate garbage disposal, all elements requisite for a serious epidemic. We are now faced with the stern fact that many of our citizens will be returning from the Pacific and other war zones where they have existed under living conditions beyond our comprehension. With them will come contagious diseases hitherto unknown. California will bear the brunt of prevention of the dissemination of these diseases throughout the nation.

It is the opinion of the speaker that the Association can adopt a total health program and that serious consideration should be given to such a procedure immediately.

Some of our posters and literature can be generalized, and it may be that after years of concentration on tuberculosis education a curt, brief sentence here and there on that subject will make a sufficient impression. General health education can be given in all groups contacted for x-raying, such as food handlers, selective service and industrial plant rejectees, students, teachers, clinic and hospital admissions. The Association could provide assistance in increasing budgets of health departments, and encouraging students to become interested in public health careers, for hundreds of well-trained workers will be needed to face the old and new problems; assistance and leadership in

solving medical problems for industry, providing health education for housing units and encouraging health surveys, that communities may be ever alert to their changing health conditions. Health libraries could be provided for schools, stressing the education of both the teacher and the pupil. These health libraries should be a growing institution, with new information added when available. Comprehensive, outstanding health books could be provided from Association libraries for use of the teachers and others. Some of our health films could be more general in their treatment of health subjects.

The past record of performance of the California Tuberculosis Association proves its value as a volunteer health organization for the prevention and cure of tuberculosis. No other volunteer health group is better equipped for mass application of the principles of public health.

In 1905, speaking at the first annual meeting of the National Tuberculosis Association, Doctor Trudeau said: "The first and greatest need is education; education of the people and, through them, the education of the State." Tuberculosis is not specifically mentioned in that statement, although we know that it was applied to that subject. Applying it to public health, it has the same truth and the same power as to a broader field of possibilities.

The postwar period will include rebuilding of the health of the peoples of the world. It will require strong healthy citizens. To the volunteer agency falls the task of pioneering, exploring and interpreting to the public the need of official agencies and supplementing the work of such agencies. All this we have done in the past as applied to tuberculosis. We are now in a position to accept the challenge to apply our knowledge and ability to perhaps the largest health problem we have ever faced.

Route 1, Santa Paula.

THE TUBERCULOSIS ASSOCIATION'S PLACE IN THE CALIFORNIA HEALTH PROGRAM *

HENRY A. RANDEL, M. D.
Fresno

I SHOULD like to express a somewhat different interpretation upon the matter under discussion. I admit that we are greatly influenced by conditions which confront us locally. These we see, whereas the situation as it exists in other parts of the State and nation we are made conscious of only by "what we read in the papers." Thus, as practicing physicians working under forced draft, we visualize our community still faced with a rather high tuberculosis incidence and mortality rate. We are told that we may easily expect these rates to rise as the result of conditions to which Doctor Halverson referred, namely, nutritional deficiencies, crowded housing conditions, etc. We are conscious of the

* From the Ventura County Tuberculosis and Health Association.

Synopsis of a paper read before the California Trudeau Society and the California Tuberculosis Association, Fresno, April 7, 1943.

* From the Fresno County Medical Society.

Synopsis of a paper read before the California Trudeau Society and the California Tuberculosis Association, Fresno, April 7, 1943.

fact that methods for the prevention and control of tuberculosis have changed since many of the busy practicing physicians received their training. The public, we feel, is still very much in the dark, with reference to some of the very elementary concepts of disease prevention.

Consequently, it is our opinion that the time has not yet arrived whereby we can safely forget or even subjugate our intensive efforts as an association toward the eradication of "the white plague." The idea has been expressed here today in favor of the isolation and forceful quarantining of recalcitrant patients as a means of stopping one of the leaks. No sooner had the idea been voiced, however, than the feasibility of the proposal was challenged. Who is to decide the issue? Our Association, with its limited specialized activity, will be expected to lend its influence, one way or another. The public wants this, for it is they who contribute annually their pennies and dollars to us for one purpose alone, namely, to fight tuberculosis.

2607 Fresno Street.

COMBAT AND CONSUMPTION *

LT. COMDR. EMIL BOGEN, M.C., U.S.N.R.

Portsmouth, Virginia

THE military significance of tuberculosis, the effect of the tubercle bacillus on the course of battles, campaigns, and wars, has received little attention. Biographical historians have commented on individual generals who were stricken, and survived or succumbed to the disease, and the historical changes that might have attended a different outcome, but acute diseases have been even more emphasized in this connection. Relatively few of the casualties among the armed forces during the actual conflict are ascribed to tuberculosis. Humanitarian feeling and economic motives, as well as recognition of cold military considerations, have generally been responsible for the measures which have been taken by the armed forces with regard to the disease.

TUBERCULOSIS AND THE SOLDIER

Nevertheless, in the development of total warfare to the prolonged process of attrition which is characterizing the present conflict, tuberculosis assumes an importance which may become decisive. The nearer a consumptive is to the front lines before he becomes incapacitated, the greater is the resultant loss to his country, not only from his own disability, but from the expenditure of material and effort required to bring him up the front line only to find him ineffective, the corresponding cost of his evacuation, and the strain on the limited medical and other facilities at the front. All of the expenditure of time, money and material, and especially of available facilities for train-

ing armed men, which is wasted on an individual who becomes incapacitated by tuberculosis before he can be utilized fully in battle detracts from the fighting chances of his country. The elimination of active consumptives, or the potential victims who are most apt to develop active disease, from the armed forces at the earliest possible time, before rather than after enlistment, therefore becomes a matter of practical military importance. There is a special danger for the armed forces in that the battlefields of this war are apt to occur in the very places where tuberculosis abounds. Philippines, Japan, Chile, Morocco, Greece, Italy, Spain, Finland, and Poland have been particularly affected, and soldiers there are exposed to massive infection from tuberculosis as well as to the machinations of the human enemies.

TUBERCULOSIS AND THE CIVILIAN: UNDER WAR-TIME CONDITIONS

Tuberculosis among the civilian population also is of military importance. The man-power reserves, from which future enlistments may be sought, are dependent to no small measure on the general levels of civilian vitality. Thus, the fact that, of the population of the United States today, less than one-fourth are too young to bear arms, or under 15 years of age, while at the time of the Spanish-American War, in 1900, more than one-third, or 40 per cent more of the population were of no military value for this reason, has a direct bearing on our military prowess. The high death rate among the Japanese, from tuberculosis and other causes, leaving her with a population nearly half of whom are under military age, may go far in winning the war for us.

The fact that tuberculosis strikes hardest at the ages of greatest military value, from 18 to 45, not only increases its potential danger to the armed forces, but also causes a great loss in man power for war industries, agriculture, and the many civilian activities essential to the continuance of the war economy. The lowered fertility of the tuberculous woman, the reluctance of the tuberculous man to assume the obligations of parenthood, mean further depletion of national reserves for future conflicts.

The severe drain on the economic and social, as well as the man-power resources of the country resulting from tuberculosis also constitutes a factor of importance in military logistics. Whether in an institution or at home, whether cared for by taxes, charitable organizations, relatives or friends, or his own accumulated savings and paid attendants, the patient with tuberculosis requires accommodations, materials, medical and other personal services, which are thereby made nonavailable for the armed services. Resources spent in caring for tuberculosis patients cannot be used for military purposes; the failure to isolate and care for patients with tuberculosis results in even more wasteful expenditures.

WHAT STEPS SHOULD BE TAKEN?

Consideration of the effect of tuberculosis on the conduct of the war, and of the effect of war

* Read before the California Trudeau Society and the California Tuberculosis Association, Fresno, April 7, 1943, in the symposium, "War-Time Tuberculosis Case Finding: Summary and Conclusions."

The opinions and assertions contained herein are the private ones of the writer and are not to be used as official or reflecting the view of the Naval Department or the naval service at large.

on tuberculosis morbidity and mortality, is not merely an academic exercise. The prime importance of the most efficient and economical utilization of the resources at our command in order that we may win the war, first, and later the peace that is to follow the war, requires that we should understand the values involved.

The first immediate requirement is the detection of the tuberculous before they have entered the Services, and their removal if they are already enlisted, or commissioned, before they have wasted the facilities needed for their training and equipment, only to have them break down of the disease before they could be "expended." This has been extensively well done, but there are still loopholes; men slip by who should never have been accepted.

The obvious corollary of the above is the provision of facilities for the further diagnosis, treatment, and isolation of the active cases revealed by the Service examinations. This is being done less extensively, and only too often a lag occurs which may be disastrous. The rest treatment is insufficiently enforced in service and veteran hospitals; collapse therapy is unduly delayed and isolation is neglected. Voluntary agencies must try to get the Services to understand the need for these and provide aid in their accomplishment, as well as facilitate the transfer of the men from the acute general hospitals and receiving centers to special tuberculosis sanatoria.

TUBERCULOSIS AND WORLD WAR I

The rise in tuberculosis death rates in almost every country on the earth during the First World War was consistent and impressive. Although the influenza outbreak may have contributed somewhat to the peak of the rise, few seem to doubt that the rise was the result of the war itself. The natural inference has been widely accepted, therefore, that war in itself is inevitably accompanied by an increase in tuberculosis. Long before America entered the present war, Cassandra-like croakings predicted a corresponding rise in the rates here this time, and every straw has been pointed to as an indication that the rise was actually occurring. This idea influences our mental state and war-time civilian morale, and also determines the practical measures which we are to take in regard to the disease.

Throughout centuries of history marred with repeated wars of every description, meticulously recorded by hosts of avid observers, as Long has emphasized, it was not until the war of 1914-1918 that the association between tuberculosis and war was so strikingly revealed. Perhaps, as Long suggests, this may have been due to the heavy toll of the filth diseases in earlier wars, typhoid and typhus, plague and dysentery, carrying off so many that the increase in deaths from consumption was indiscernible.

Even during the First World War, the rises in the tuberculosis death rates were not synchronous in all countries, as emphasized by Faber, and showed variations in time and place independent of the declarations of war and the cessation of hostilities. Tuberculosis rose higher in conquered

than in conquering countries, more with blockade than with invasion, and more with inflation and business booms than with depression and unemployment. Nevertheless, war in general tended to be associated with increased tuberculosis death rates in the countries actually involved.

INTERPRETATION OF TUBERCULOSIS MORTALITY RATES

Rise in war-time tuberculosis mortality rates by no means is synonymous with increase in the extent of the disease. In fact, the very death of the consumptive may tend to diminish the spread of the infection. Reports from workers in Europe and America during and immediately after the war indicate that the increase in the death rate from tuberculosis was due mainly to the increased lethality rate among those previously affected, rather than to an increase in the extent of the infection. To some extent the increased tuberculosis mortality rate may have reflected breakdown of arrested disease, but it seems unlikely that it was associated with a great increase in the infection rate among most populations.

An exception must be made for the African French troops and certain other instances where a people previously unexposed to the disease were suddenly placed in intimate contact with open cases of tuberculosis. Such instances undoubtedly exist and may be increased by war-time conditions, but seem to be of relatively minor importance in affecting the total situation.

The effects of war are not exerted equally upon all elements in the population. Influences affecting one group may be exactly reversed in regard to another. Thus, for example, troops in actual combat, whether on the ground, in tanks, in the air, or on or under the surface of the sea are subjected to congestion, strain (physical and mental), bad ventilation and hygienic and sanitary dangers, scanty and ill-balanced rations, and all kinds of physical trauma and exhaustion, which may well lead to breakdown from any disease latent within them. On the other hand, it is notorious that the armed forces of all countries, especially when not subjected to the exigencies of the actual front line, live on the "cream of the land," receive sanitary and medical protection, the most carefully planned and inspected diet, and every effort is made to preserve their health. There are, perhaps, hazards in the admixture of large groups of men for the first time in recruiting camps and pools awaiting distribution, and during maneuvers, etc., but they are, in general, under much healthier conditions than are their civilian confreres.

Again, military prisoners are subjected to greater danger of contracting or succumbing from tuberculosis than almost any other element of the population. Despite the admirable work of the Red Cross organizations, many prisoners are still, as throughout history, exposed to cramped congested quarters, unsanitary surroundings, inadequate diet, and all kinds of physical and psychic trauma. The increase in tuberculosis among prisoners is striking. Isolation from fellow prisoners who happen to carry open lesions is practically impossible. In the

case of the Americans taken in the Pacific, as in those in North Africa, the hazard is increased by the high incidence of the disease among their captors and the local population who may be mixed with them in internment. A special project to demand chest x-ray and other protection of every prisoner whose liberty is recovered by exchange or reconquest might well be undertaken, first by private agencies, perhaps, but eventually by the armed forces themselves, to prevent the survivors of imprisonment or other hardships from becoming menaces to their own comrades.

Among the civilian population living in lands remote from the scene of actual combat, the dangers from tuberculosis are subject to their own control, in war time as in peace. The variations in the incidence of infection and disease in different age, sex, and other groups, and the variations in the factors affecting them should all be taken into consideration in considering preventive activities in such groups.

IN CONCLUSION

The midst of war is not the most satisfying time to prepare a long-range plan. But it presents opportunities which should not be overlooked. The immediate hazard now, during the war time, is that laxness and letdown may lead to an increase in tuberculous infection, and a rise in the incidence of the disease. Our first job, then, is to hold on to the gains that have been made, to lessen still more, to stop, wherever possible, the exposure to tuberculous infection, as well as to care, humanely and sanely, for those whose misfortune make it necessary to isolate them from their fellows.

In addition, the complete eradication of human tuberculosis, following the path of the bovine form, is now within sight in this country. America may well show the way to freedom from fear of the white plague. It is still a far cry to freeing the world from this enemy. But, county by county, country by country, continent by continent, the goal lies before us, and our opportunity as well as our duty looms clear.

Station Hospital.

WARTIME INDUSTRIAL EXPOSURES IN RELATION TO TUBERCULOSIS*

CLIFFORD KUH, M. D.

Berkeley

IN the past, war has increased mortality due to tuberculosis, and the question is naturally raised: Will it happen again in this war in this country? Whether it does or not, certain situations which worry us as potential causes of increased tuberculosis are: food shortages; the employment in industry of young people, particularly women between 16 and 30 years of age; re-employment of arrested cases of tuberculosis; inadequate case-finding programs in industry; overcrowding; increased contacts; and overwork.

* From the State Department of Public Health, Berkeley. Read before the California Trudeau Society and the California Tuberculosis Association, Fresno, April 7, 1943.

Of unusual interest is the possible contribution to this increased morbidity and mortality of the physical environment in industry—of toxic dusts, fumes, gases, and vapors. The problem justifies consideration due to the increased utilization of certain toxic materials as, for example, sand instead of shot for blasting, because metal must be diverted to the battlefield.

California industry is near the flood tide, having received to date orders for about \$10,000,000,000 worth of war supplies. Employment in California manufacturing industries, exclusive of agriculture, is nearly two and three-quarter millions. The majority of these workers are protected by compensation laws, which naturally create a consciousness on the part of the worker and his physician as to the possible relationship between work and illness.

TUBERCULOSIS IN INDUSTRY

It was largely this consciousness on the part of workers generally which prompted the symposium on tuberculosis in industry, held at Saranac Lake, New York, in 1941, at which over thirty papers were presented, and the general conclusion reached that, aside from socio-economic factors, nutrition, silica, and the tubercle bacillus itself, it was not possible to incriminate categorically other factors as causative of the rising incidence of tuberculosis which accompanies advancing age. To this list, trauma should be added as capable of reactivating preëxisting latent tuberculosis. The rôle of dusts, fumes, gases, and vapors, with the single exception of silica, was considered to be negative. This conclusion, if justifiable by fact, may require on the part of physician and layman alike a considerable amount of *unthinking* in respect to tuberculosis. The voluminous statistical, clinical, and experimental evidence, which was brought out at the symposium and in other studies, and which has an important bearing on the subject of this paper, may be summarized as follows:

In order for tuberculosis to develop, there must be tubercle bacilli. They usually come from without; but old, dormant organisms within the lung can undoubtedly be reactivated. In order to favor the development of tuberculosis, foreign matter present in the lungs must have a *specific* action on lung tissue favorable to the growth and multiplication of the tubercle bacilli.

ACTION OF SILICA

Among dusts, silica is the outstanding example of a substance which does this. It creates with dead lung tissue some compound of silica that is particularly favorable to the growth of tubercle bacilli. As far as is known, no other substance produces such a compound. Injection of strong irritants, like mineral acids, croton oil, cantharidin, and turpentine, kills tissue, but does not provide a medium in which tubercle bacilli grow especially well.

The effect of silica is not due to its hardness. Finely divided carborundum dust having sharp edges, of a greater hardness than silica particles,

does not produce the nodular reaction characteristic of silicosis.

Silica can cause practically every type of cellular response produced by the tubercle bacillus itself. It is, indeed, remarkable that a simple inorganic compound, such as silica, can set in motion a complicated series of cellular reactions comparable to those produced by a living organism. The nature of this action remains a mystery, but is believed to be due to undefined physicochemical properties of the surfaces of the silica particles. The effect is different from that of any other inorganic material that has been investigated.

ACTION OF OTHER DUSTS

Asbestos, on the other hand, is believed to have a mechanical rather than a physicochemical effect; and while a disabling fibrosis may result from exposure to asbestos, the fibrosis is different from the reaction due to silica. When experimental animals are exposed to finely ground asbestos, the mechanical effect of asbestos is destroyed and there is no lung fibrosis. If the action were physicochemical, the finely divided particles would accelerate the action.

Except for silica, the majority of dusts which make workmen uncomfortable and cloud the workshop are, in respect to tuberculosis, physiologically inert. Talc and other silicates may produce in the lungs various amounts of nondisabling fibrosis, but the formation of fibrous tissue is not enough in itself to predispose to tuberculosis. Fibrosis is characteristic of healing tuberculous lesions and is not characteristic of new tubercle formation.

The lungs must be considered not only as a repository for material inhaled, but as an avenue of absorption into the body. After absorption, specific systemic poisoning may result. Take lead, for example. Belknap denies that lead absorption or intoxication predisposes to or aggravates pulmonary tuberculosis. Finely divided oxides of lead, lead carbonates, chromates, and sulphates are quite soluble in body fluid, and when lead is inhaled in the form of these compounds, it readily passes through lung tissue, is absorbed into the blood stream, and produces its characteristic systemic poisoning. On the other hand, finely divided metallic lead may be held for a longer time in lung tissue and set up a local fibrosis, a mechanism which was used at one time to explain an apparently excessively high tuberculosis mortality rate among printers; but more recent statistical and clinical studies have denied increased tuberculosis morbidity or mortality among printers.

Arc welding, now so common in war industries, may serve to illustrate a unique type of local reaction in the lungs. In the heat of the welding arc the metals involved are converted to oxides, which enter the small air spaces of the lungs, where they presumably cause denaturation of the protein of the lung tissue. This changed protein causes a foreign protein reaction similar to the chills and fever which may result from subcutaneous injection of typhoid vaccine or other foreign protein. This reaction, known as metal fume fever, is a self-limiting illness. But a few arc welders,

working in enclosed tanks, have developed a non-tuberculous pseudonodulation due apparently to focal collections of fine iron particles. Confirmatory tests on animals indicate that arc-welding fumes do not prevent healing of a recent tuberculosis and do not reactivate an old experimental tuberculosis.

GASES AND VAPORS

Henderson and Haggard have classified environmental gases and vapors with the local and absorptive actions in mind. A modification of their classification, which is more convenient for our purpose, is as follows: (1) Simple asphyxiants, like nitrogen, that exclude oxygen from the lung. (2) Chemical asphyxiants, like carbon monoxide, which, after absorption, act upon the blood or tissues to prevent transportation or utilization of oxygen. (3) Irritants, like the fumes of nitrogen oxide, which injure the surface tissues of the respiratory tract. (4) Volatile substances, like the hydrocarbons, which after absorption produce their specific pathological action.

From the standpoint of tuberculosis, our chief interest is in the irritant gases. Their action is explained by Henderson and Haggard, as follows:

The selective action of the various irritants upon different parts of the respiratory tract is due primarily to the differences in the solubility of the gases. Thus, a gas which is readily soluble in water is taken out of the inspired air by contact with the first moist tissue which it reaches. As a consequence the upper respiratory tract bears the brunt of the action; the lungs are relatively little affected, since the concentration of the irritant which reaches them is greatly reduced by absorption in the upper passages. In the case of those gases which have a low solubility in water, the upper respiratory passages suffer little, for little is absorbed, and the main damage is done deep in the lungs. A gas of moderate solubility exerts its action more or less uniformly throughout the entire respiratory tract. Thus, the irritant gases are dangerous inversely as their solubility. The less soluble any one of them is, the more insidious it is.

Such damage to lung tissue may lead to edema and bronchopneumonia, but not to tuberculosis. At the Saranac symposium it was said: "The great majority of human beings exposed to various respiratory irritants in their occupations show no evidence of tuberculosis, and at least 5 per cent of them carry to their graves the scars of healed or partially healed tuberculosis."

On the effect of exposure to gases, our best source of information is the experience of the past World War. The report of the Surgeon General of the U. S. Army for 1919 showed that among 70,552 American soldiers who had been gassed, 173 cases of tuberculosis subsequently developed, a rate of 2.45 for 1,000. The corresponding rate for all enlisted personnel overseas was 3.50 in 1918 and 4.30 in 1919. In other words, there was less tuberculosis among the gassed than among the entire enlisted personnel. Experiments on gassing tuberculous rabbits bear this out.

Annual roentgenographic examination of considerable groups of men engaged by a plant in manufacture of chlorine, sulphur dioxide, hydrofluoric acid, etc., showed no trace of reaction attributable to gas, and the incidence of tuberculosis

was no greater in these men than in persons employed in other departments of the same plant. Latent apical disease in several men in the exposed group was not reactivated.

EFFECT OF OTHER FACTORS

The next question of interest is whether acute respiratory disease *per se*, as pneumonia, acquired off or on the job, affects the incidence of tuberculosis. The answer is probably negative. Lobar pneumonia, developing in the same lung or lobe involved by a chronic tuberculous process, rarely has any unfavorable influence upon the preëxisting tuberculous infection; the same has been noted in experimental animals. Some observers have even claimed that acute pneumonia in humans has promoted healing of the tuberculous focus.

In experimental guinea pigs, a preëxisting pneumonia usually prevents tubercle formation on exposing the animals to inhalation infection. Coal miners, who have a high mortality from acute respiratory disease, have a notoriously low mortality from tuberculosis. In six of eleven cement plants, where x-ray examinations of workers were made under supervision of the New York State Division of Industrial Hygiene, those groups reporting the highest incidence of bronchitis, epidemic influenza, nonepidemic influenza, and pneumonia, exhibited not a single case of active tuberculosis.

On the other hand, the pandemic of influenza of 1917 and 1918 was followed by an excessive number of new cases of tuberculosis, and it is believed that the extensive damage to the lung structure by the influenzal infection may have had a specific effect, predisposing to tuberculosis, although this was not borne out by the New York State study in cement plants.

Lastly, in the summation of environmental factors, temperature and humidity have no demonstrable effect on the incidence of pulmonary tuberculosis, according to statistical studies among laundry and textile workers exposed to high temperatures and high humidity. One explanation advanced is that the body's physiological response to temperature and humidity affects the upper respiratory tract, the hemopoietic system, body temperature, circulation, metabolism, skin, and rate of respiration, but does not specifically alter lung tissue.

A study of the effect of hard physical work in the hot environment of a steel plant showed no greater incidence of tuberculosis among employees than among applicants for work at the plant. The workers on light jobs managed their tuberculous infections better than those on hard and moderately hard work, but the difference was not enough to warrant a feeling of security with respect to clinically significant tuberculosis among workers on light jobs.

EXPERIENCE IN CALIFORNIA

The war has increased the exposure of California workers in particular to the fumes of the welding arc; to organic solvents used for painting or coating various surfaces, and for pickling or cleansing metal; to acids for electroplating; to metallic fumes and vapors in mining, refining, process-

ing, or otherwise working with basic metals and alloys; to cutting oil; and to luminous paint containing radium. None of these exposures, so far as is known, predisposes to tuberculosis. Exposure to silica in foundries in concentrations above a maximum permissible limit is relatively infrequent due to the employment of wet methods and the use, for separating the metal from the mold, of parting compounds containing small amounts of silica.

In the reporting of cases of occupational disease in California during the past year, the small number of cases claiming an occupational origin for tuberculosis is striking. Among approximately 10,000 case reports, only twenty-five are for occupational tuberculosis, and of these not more than seventeen seem justified. Eleven of the seventeen workers were exposed to silica—foundrymen, grinders, sandblasters, quarry workers, and, singularly, a ranchman and a tractor operator exposed to the sand in the soil. Five other cases were in nurses or technicians exposed to the tubercle bacillus in the laboratory or hospital, and one worker claimed he was exposed to an infected worker. The eight cases classed as doubtfully occupational were among metal grinders, concrete mixers, butchers, and explosive-powder operators.

The evaluation of the environmental factor in relation to tuberculosis is assuming greater importance from day to day because of the employment of handicapped workers, notably arrested cases of tuberculosis. Should the rehabilitated tuberculous case be exposed to noxious fumes? Rules for employment of old tuberculous cases vary, but one set includes: No work on graveyard shift; no continuous walking or standing; no exposure to unusually dusty atmosphere, to oil spray or fumes, to temperature extremes or sudden changes of temperature; restricted weight lifting. If what has been said previously is true, many of these restrictions may be of doubtful value, although their enforcement provides a comfortable margin of safety.

Certainly, the available evidence indicates that needed control must be directed toward what is termed *personal*, rather than environmental hygiene. And under personal hygiene are included adequate case-finding surveys in industry. Unless war-time industry develops new silica-like substances, and becomes careless in their use and in the use of silica itself, an increased incidence of tuberculosis, should it occur, would undoubtedly be due to lack of measures fostering a healthy personal life rather than due to dusts, fumes, gases, and vapors in the working environment.

2002 Acton Street.

Babies can be infected with tuberculosis during the earliest days of life and such infection in certain cases tends to progress rapidly and often ends fatally. The diagnosis of tuberculosis meningitis or generalized tuberculosis in an infant or child should initiate an immediate and intensive search for the source of infection.

—A. S. Pope, M. D., *Jour. of Pediatrics*, March, 1942.

I have lived to a riper age than years can show. 'Tis deeds make old; these must thou number: with these was my life fulfilled, not with idle years.

—Ovid, *Consolatio ad Liviam*, 1. 448.

MICROPHOTOGRAPHIC EXAMINATIONS OF THE CHEST AT THE U. S. NAVAL TRAINING STATION, SAN DIEGO*

COMDR. PAUL V. GREEDY, M. C., U. S. N.
San Diego

THE method adopted by the Navy for these examinations is as follows: The recruit is placed in the usual postero-anterior position before a fluorescent screen, which is fixed at the end of a 38-inch ray-proof tunnel. At the opposite end of this tunnel a camera, containing a roll of 35 mm. film is attached. This film has an emulsion which is especially sensitive to the green light produced by the screen used. The final record obtained is a photograph of the fluorescent image produced on the screen when it is activated by x-rays. The film is read in strip form by passing it through a special viewer, which allows a magnification up to approximately three diameters. After interpretation the film is cut, put in individual envelopes carrying the identification of the original subject and sent to the Bureau of Medicine and Surgery in Washington for permanent filing.

Up to the time of my assignment to this duty I had had no experience with photofluorography. I was at first very skeptical of the value of this method of examination. When one is used to viewing radiographs of the chest on the standard 14 by 17 film, with its 238 square inches of radiographic shadows, and then is confronted with one square inch of shadows to take the place of his usual radiograph, his first reaction is doubt, if not outright prejudice. The previous habits of eye and mind are disturbed, and the resultant mental reaction is unfavorable.

AUTHOR'S EXPERIENCE

During my first six weeks of this new duty, I expended a large number of standard-sized chest films to prove to myself that what I thought I saw in the miniature film was, or was not, there. I learned, among other things, that muscles, posterior articular tubercles of the ribs, and long transverse vertebral processes could, especially in the apical regions of the chest, produce shadows deceptively suggestive of pathologic lesions. Gradually, however, I developed ability to make interpretations which were confirmed by standard-sized films, and at the same time my confidence in this new method of examination became established.

Perhaps special talent is required to interpret 35 mm. films, but it does take practice or experience to gain confidence in this form of examination. I wish to emphasize this need of experience, because I have heard medical officers express skepticism after viewing a roll of 200 films during their first day in our photofluorography unit. That is much too early to form such an opinion. In training medical officers at present, we use a set

of 35 mm. films showing proved pathology, and another set of essentially normal films of good quality. With these films and daily practice in reading rolls of film, medical officers with previous radiological experience acquire confidence in photofluorography in a training period of one week.

QUERIES

We are often asked, "How small a lesion have you been able to detect?" Single lesions of soft quality, which appear to be one-quarter inch or less in diameter in the 14 by 17 film, are detected by our medical officers with photofluorographic experience. Calcified lesions of the apparent size of one-eighth inch or smaller in the standard-sized film, are readily seen. Accentuated broncho-vascular markings can be followed well out toward the periphery. We do not claim, however, that all small lesions are always discovered. The position of the lesion and the quality of the film are important factors in our successes and our failures.

Another frequent question is, "What do you believe your per cent of missed diagnoses is?" We cannot even estimate an answer to this question. A recruit remains at the Training Station from a few weeks to three months at most, and so all our errors probably do not have time to catch up with us. Up to the present time six cases of pulmonary tuberculosis have been found clinically in recruits, to whom we have given an essentially normal classification. Three of these were tuberculous pneumonias of the acute type, and we are not convinced that a lesion, demonstrable by radiography, was present in their lungs at the time of our photofluorographic examination. The other three were outright missed cases, for which we have found no valid excuse. The final answer to this question of missed cases will come from the statistics of the Bureau of Medicine and Surgery of the Navy after this war is won. The incidence rate for pulmonary tuberculosis among naval personnel before photofluorography was instituted, compared with the rate after photofluorography was started, should give an indication of the extent of our success or failure. We believe those future statistics will prove the great value of mass survey of the chests of recruits.

NAVY CRITERIA CONCERNING REJECTIONS FOR MILITARY SERVICE

The Medical Department of the Navy set the following criteria as causes for rejection:

(a) Any evidence of adult or reinfection type of tuberculosis, active or inactive, other than slight thickening of the apical pleura or thin, solitary fibroid strands.

(b) Evidence of active primary (childhood) type of tuberculosis.

(c) Extensive multiple calcifications in the lung parenchyma, or massive calcification in the hilum, or any calcification of questionable stability.

(d) Evidence of fibrinous or serofibrinous pleuritis, except diaphragmatic adhesions with or without blunting or obliteration of the costophrenic sinus.

* Read before the California Trudeau Society and the California Tuberculosis Association, Fresno, April 7, 1943, in the symposium on "War-Time Tuberculosis Case Finding."

The opinions or assertions contained therein are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

(e) Miscellaneous disqualifying defects: pneumothorax, hydrothorax, chronic pneumonia, bronchiectasis, pulmonary abscess and tumors of the lung, pleura, or mediastinum.

CLINICAL MATERIAL

Cases diagnosed adult-type tuberculosis were also classified as active or inactive. It is to be regretted that the exigencies of the service made it necessary to transfer these patients to another Command immediately after diagnosis. For that reason our opinion as to the activity or inactivity of the disease was not confirmed by clinical or laboratory findings. With this admitted but unavoidable defect we give the following statistics. They are based on photofluorographic chest examinations made on recruits during the period from May, 1941, to December 31, 1942. All final diagnoses were made from chest radiographs of conventional size taken at six-foot distance.

Pulmonary tuberculosis, adult or reinfection type.....	131.8 per 100,000
Active	61.7 per 100,000
Inactive	70.1 per 100,000
* * *	
Active primary	1.2 per 100,000
Multiple or massive calcifications.....	16.5 per 100,000
Pleuritis	12.7 per 100,000
Miscellaneous	10.1 per 100,000

COMMENT

In making the rejections for adult-type tuberculosis, we adhered closely to the Bureau of Medicine and Surgery's criteria; definite parenchymal foci, or two or more fibroid strands in the upper third of the lungs.

There were 26 rejections for multiple calcifications in the lung parenchyma. Eight of these were classified as healed miliary tuberculosis of the lungs because of the uniform size of the nodules and their even distribution. The other 18 were described as extensive healed primary type infections in our reports. This classification probably was an unnecessary refinement, and was definitely an arbitrary classification made entirely on consensus of staff opinion.

OTHER CAUSES FOR REJECTIONS

There were 16 rejections for miscellaneous causes. These were divided as follows:

- 5 mediastinal tumors
- 3 bronchiectasis
- 2 pulmonary cysts
- 1 asbestiosis
- 1 pneumoconiosis causative agent unknown
- 1 chronic interstitial pneumonia
- 2 pneumothorax
- 1 pulmonary abscess

ON PERSONNEL EXAMINED

In any deduction attempted from these statistics, one should remember that the Training Station was dealing with a selected group of individuals. They were young men, the great majority of them between the ages of 17 and 23. Most of the obviously unfit or diseased applicants were rejected at the Navy recruiting stations. Our recruits came

from the Southern Mississippi Valley States, from the Southwestern States, the Rocky Mountain States, and the West Coast States. No Negroes were included, because Negroes were not trained at the San Diego station.

No statistics were kept as to geographical distribution of the cases, but my impression is that the incidence was slightly higher in the Mississippi Valley States and Texas than in the other districts from which we drew recruits.

COSTS TO THE GOVERNMENT

The cost to the Government in care and pensions of patients acquiring tuberculosis during World War I has been variously estimated from \$10,000 to \$25,000 per patient up to the present time. Assuming only \$15,000 being the final cost for each tuberculous patient, and assuming, in addition, that none of our arrested cases was active and would not become active, the photofluorographic unit has saved the Government approximately \$1,500,000. But it may be argued that most of these patients will ultimately be cared for at Government expense even though they were eliminated from the Navy soon after their enlistments. Then we in the photofluorographic unit still have the satisfaction of believing that we prevented additional cases of pulmonary tuberculosis by eliminating many possible sources of infection from the narrow living spaces of ships at sea and from the close personal contacts of naval barracks ashore.

I have had no experience with photofluorography on 4 by 5 film which is used in the induction centers and the U. S. Army. Therefore, I am not qualified to give an opinion as to the comparative merits of the two methods of examination. I am certain that the 35 mm. method of examination is a valuable and economical method of making mass surveys for pulmonary tuberculosis.

Naval Training Station.

EXPERIENCE IN INDUSTRY *

NEIL CLARK GODFREY

Napa

DURING the second week of February, 1943, the Basalt Rock Company, Inc., of Napa, California, conducted a fluoroscopic survey of its entire personnel for tuberculosis. We understand that such an undertaking was the first of its kind ever tried in the Bay region, and, in fact, that in several particulars it was unique in our national war on tuberculosis.

In retrospect it appears that this mass examination was a considerable success and constituted a concrete contribution not only to the public health of the community, but also to plant efficiency. It was a builder of employee morale in that it demonstrated to the men that the Company was interested in their personal well-being. Also, it served as a practical demonstration of the value and efficiency of modern disease detection.

* From the Basalt Rock Company, Napa.

Read before the California Trudeau Society and the California Tuberculosis Association, Fresno, April 7, 1943, in the symposium on "War-Time Tuberculosis Case Finding."

At the outset the Company determined that the examination, if it was to achieve maximum results, should be entirely voluntary, strictly confidential, and that no discrimination should be shown regarding any individual case, irrespective of the ultimate findings. With this predesignation it became obvious that it would be necessary to stimulate interest to such a point that the response of the men would be spontaneous.

MECHANICS OF THE PLAN

To accomplish this the actual mechanics were handled by the personnel office.

First, and by reason of the personal background of a large majority of the men working in the yard, it was thought imperative to alleviate suspicion by conducting an intensive educational campaign designed to sell the necessity of cooperation. This was done through the media of posters, circulars, and personal contact by the leadermen and foremen. To this end, the yard was thoroughly billed; first, with general health posters, then with those emphasizing the dangers of colds and other similar ailments; and last, a week before the examination, posters showing the facts about tuberculosis, its dangers, detection, and cure. The day preceding the commencement of the examination, all employees received a circular giving a full explanation of the plan, its advantages and benefits. The fact that the examination was to be free and voluntary was particularly stressed. More important, however, was the fact that approximately ten days in advance of the examination a meeting was called of all of the departmental superintendents, shop foremen, quartermen and leadermen. This group was addressed by one of the personnel officers and by a local medical doctor from the standpoint of selling these men on the immeasurable value of 100 per cent participation. They were sold. Also, they were given information so that in turn they could sell their crews and answer the questions of the men.

Thereafter the foreman lists were grouped and scheduled with a coordinator or group leader in charge. This schedule consisted of a list of departments broken down into foreman groups and showing the name and badge number of the coordinator in charge. These men were selected with consideration as to their personalities and whether their positions required them to contact the men daily.

Well in advance of the examination a meeting of these coordinators was held and they were also sold on the merits of the examination. Again the necessity for a 100 per cent turn-out was emphasized.

The next step was to have appointment notices mimeographed, and about a week before the starting date these slips were filled in with the names and other pertinent data concerning each and every employee of the Company. After the appointment notices were completely filled out, the time was also filled in, in accordance with a time schedule. The time schedule gave the hours available, the shift, and the potential number of patients. Appointments were scheduled sixty to the hour, the times set being fifteen every quarter hour.

Our experience showed that twenty appointments each quarter hour could have been made safely. The next step consisted of delivering the appointments for the next succeeding scheduled examination to the various coordinators just before each shift. The pushers, in turn, delivered the notices directly to the men and then contacted each one of them later to see that no one forgot. At all times during the examinations one coordinator was put in charge as a supervisor. If any person was absent at the time of his appointment, or failed to take the examination for any cause, the fact was noted on the notice, which was returned to the office for possible resetting.

OTHER OBSERVATIONS

The Company prepared the examination quarters, which consisted of a dark room for the fluoroscope and a waiting room. The results of the examination showed that out of the 2,410 persons examined, 23 suffered from noninfectious abnormalities, requiring some routine medical check-up; 49 had visible heart irregularities; 63 questionable tuberculosis referred for x-ray and clinical study; 28 cases showed active tuberculosis and were referred for treatment; there were also three persons found to have possible malignancies of the chest. Thus, the total persons definitely in need of the examination were 166.

The statistics also showed that the total number of employees was 2,680. Of this number, 51 were absentees after several resets, 94 were terminated during the examination period, and 9 refused to take the examination on religious grounds. Thus, the percentage examined was 95.4 per cent.

A close check of the time consumed was kept. This showed that the average time lost per man was 19 minutes. This time multiplied by the average wage of \$1 per hour amounted to \$763.17. The total expense, adding time lost, cost of the examination room, extra secretarial service and doctors' fees, divided by the total examinations given, shows the cost to the Company to have been 48 cents per person examined.

REACTIONS OF THE EMPLOYEES

Before the plan was commenced, only a small number of the men appreciated the value of the fluoroscope. Many of the employees were not aware that such a machine existed. After the survey was completed, these men were convinced of its efficiency and value. The idea of having a machine that enabled the doctor to look inside their lungs appealed to their imagination. In a word, the examination was a concrete demonstration of its own worth and it inspired enthusiastic acceptance.

With only one exception, the positive cases were unaware of their condition before. But for the survey these men would have continued at their jobs until their condition was far advanced. And, of course, it goes without saying, that the potentialities of their contagion would have been far reaching. Statistics could never be compiled to show the total ramifications of the effort.

Actual experiences during the survey encompassed many extremes. In several instances the

potential examinees stoutly announced that tuberculosis was merely a figment of man's unfaithful mind; that to submit to the examination would constitute a violation of their religious precepts. Another employee, a feminine welder, shyly but firmly insisted that the necessity of removing her leather welder's uniform before the fluoroscope amounted to a needless violation of her modesty. Upon being informed that her examination could not proceed without this preparation, modesty or no modesty, she blew out a storm of oaths that would have dwarfed the attempts of a longshoreman. However, the general rule was that all persons were enthusiastic and cooperative.

The responsibility for the actual conducting of the examination rested entirely upon the Napa County Association. Through its officers the attendants, nurses, and the examining physicians were provided. There were a great many "don'ts" that the Company was compelled to force on the examination attendants. Because of the fact that this company is a signatory of the so-called Master Agreement between the West Coast shipyards and certain labor unions, physical examinations cannot be made a condition of employment. For that and similar reasons the doctors could not be allowed to discuss their findings with any employee. The readings were given in code so that fellow employees, and even the man himself, were not informed of the findings at the time. Later the man and his family doctor were sent a letter showing the diagnosis.

The postexamination follow-up is now in progress. It is constituted by a program of calling at the homes of the affected persons; x-rays, where further diagnosis is in order; and the making of arrangements for hospitalization where such is required. The Company is giving such aid as it can.

CONCLUSIONS

Our conclusions, predicated upon our experience to date, are:

1. That in an industrial plant such as the Basalt Shipyard a survey of this type is a good investment, well worth the monetary expenditure.

2. That a well-organized campaign directed toward a large number of such industrial plants, with persistent postexamination follow-ups, would constitute the maximum contribution now possible in the present stage of the war against tuberculosis.

Basalt Rock Company.

CURRENT TRENDS IN INDUSTRIAL HEALTH*

T. S. PETERSEN
San Francisco

IT is a pleasure to meet with the members of this association which has had an important part in the reduction of tuberculosis. My own company formerly had sanatoria for the treatment of our

employees who had this disease. Of late years the number of such cases has been so greatly reduced that, with the improved general facilities available, it is no longer necessary for companies to operate their own sanatoria.

The reduction in suffering, as well as the reduction in the loss of productive time, and, therefore, income, which this decrease in tuberculosis has occasioned, is much appreciated by industry in general, and we are in hearty accord with the good results of the work which this group and other similar groups as well as the medical profession as a whole have achieved. At the same time, we realize that the fight against tuberculosis is one which must be constantly continued, and that this fight is even more necessary during wartime periods.

My viewpoint on tuberculosis control must, of necessity, be that of industrial management rather than of a professional approach to the subject. In considering the current trend in industrial health, it is assumed that there is some change from what has been the situation in the past. Accordingly, it may be well to consider, as a background, the usual industrial health program of a few years ago.

INDUSTRIAL HEALTH PROGRAMS IN PREVIOUS YEARS

While such programs varied widely in different companies, a fairly common one in larger industries might be described as follows:

1. *Industrial Injury First Aid.*—Nearly all companies where a fairly large number of employees were at work had provisions for giving first aid in cases of industrial injury. This is probably one of the earliest forms of industrial health and one of the most necessary. Even companies which did not have doctors and nurses in residence generally made some provision for the quick securing of nearby medical services for such injury cases.

2. *Preemployment Examinations.*—These consisted of fairly complete physical examinations, primarily for the purpose of determining whether the individual would be liable to injure himself in the type of work for which he was being employed, or would endanger any of the employees with whom he was associated. More and more, as time went on, the doctor making these examinations was relied upon to indicate the type of work for which the individual's health or physical condition indicated he was suited. Thus, more and more the individual was protected. Furthermore, partially handicapped workers could in this manner be employed on types of jobs where their physical condition would be no detriment and their health would be protected.

3. *Periodic Physical Examinations.*—Many of the companies which provided for preemployment physical examinations also provided for periodic examinations, say every two years up to some age such as 40 and every year thereafter. In this way some illnesses and diseases, or physical conditions, such as hernia, could be detected in early stages, and the examining doctor could counsel with the

* From the Standard Oil Company of California.
Read before the California Tuberculosis Association,
Fresno, April 7, 1943.

employee about securing medical treatment from his own physician.

4. *General Health Services.*—Activities under this heading were among those which differed most widely in different companies. In general, they were rather limited. Some companies had doctors and nurses in residence who were available for counsel and advice to employees when they were ill or in poor health, in which case a discussion of their condition and advice as to securing immediate medical treatment from their personal physicians could be given. Usually, in such cases where doctors and nurses were in residence, first aid in sickness cases was given. However, outside of such limited service as that already mentioned, not many companies did much in the way of general health service.

From these earlier beginnings the industrial health program gradually expanded as management and employees both became more interested in the benefits of good health. It has been our experience that employees, particularly the older ones, have been increasingly active in asking for more general interest in health problems. At the present time, during the war period it is very important that our productive capacity be maintained at its highest level. With manpower playing such a critical part in producing goods necessary for the war, all the time which can be saved from sickness is a direct contribution to the war effort as well as a personal benefit to the individual.

To complicate this industrial health problem, during the war period we have many changed conditions. With a large influx of workers to some of our Pacific Coast areas, with the consequent crowded living conditions and often unsuitable housing, the health conditions at home are not as good as they formerly were. In addition, many of the men are working longer hours, which contributes to fatigue and decreases recreation periods. Food rationing has made it difficult in some cases to secure as much of the more essential foods as could formerly be obtained. At the same time, the great demands on the services of medical men in the armed forces, as well as in the growing communities, has resulted in some cases in a shortage of available medical service.

CURRENT INDUSTRIAL HEALTH PROGRAMS

All of these factors together lead rather naturally to a growing interest in industrial health and, for that matter, in public health. On the industrial health side, and undoubtedly in public health as well, interest is being centered in the prevention of sickness rather than the cure. This leads to a review of some of the current trends as industry sees them, and which can perhaps be discussed under the following seven points:

1. *Encouragement of Improved Living Habits.* I believe medical men are responsible for convincing industry that the foundation of good health is good living habits. One of the most important of these is proper eating. Accordingly, the medical divisions of many large companies are interested in educating the workers on good eating habits.

Such education consists of articles published in company magazines, in holding classes in nutrition for the wives of workers, in making available information concerning vitamins and the part they play in good health, and even the distribution of cook books explaining what can be done with the foods available under rationing.

In other words the effort is to provide the properly balanced diet for the type of work which the individual performs. The company physician himself does not necessarily handle the details of such a program, but under his direction nutrition experts, or others skilled in this field, can carry on the work. Some of the public utilities and certain other companies have such people attached to their staff who are available to industries in nearby communities for conducting classes or advising on such programs.

Also, there is an increasing trend toward the furnishing of hot lunches in company cafeterias or lunchrooms, and the provision of warm drinks on the night shifts. If such activities as these contribute to generally improved health, they certainly are worthwhile, and I have no doubt that there may be some expansion along these lines from public agencies as well as from industry.

Then, also, there is encouragement of obtaining sufficient and proper sleep, regular exercise, regular bathing and other good living habits.

2. *Prevention of Common Ailments.*—Under this general topic come such efforts as the prevention of the common cold which, apparently, in our company at least, accounts for one-third of all time lost due to sickness. Industry, as well as the public, would eagerly welcome a "sure fire" method of eliminating this practically universal complaint. I am not sure just how the medical profession generally regards cold remedies or preventives, but many industries are trying out some of those now on the market. My own company is currently making a test of oral cold vaccines on about 5,000 employees with a view toward trying to determine how effective they are in preventing colds. Along with these vaccines we give a small pamphlet on good living habits.

Some companies have tried furnishing vitamin capsules to their employees while others have held to the view—based upon their own medical division's recommendation—that vitamins can best be secured through the use of proper foods. In any event, there appears to be a definite trend toward taking an interest in the prevention of some of these minor ailments which contribute so much to the discomfort of the individual and to lost time from sickness.

3. *General Health Education.*—There is also an analytical approach to the industrial health problem which lends itself to both individual health education and general health education. By keeping track of employees who are frequently sick, the physicians can determine where help is apparently needed. A personal interview by the company physicians with such individuals, and advice and counsel on some of the matters already mentioned, such as eating habits, recreation habits and general

care of the health, in many cases considerably assists the individual. Such interviews often result in examination, and then if medical treatment appears necessary, advice for securing such treatment from his personal physician is given.

As a result of such investigation of individual cases based on sickness records and similar data, the points on which it appears desirable to give further information to employees in general are determined, and such information is presented through articles in company magazines, by slide films in weekly safety meetings or in connection with periodic examinations.

As a direct service to the general education in health matters, many industries have taken steps to encourage the employees to seek the advice of the company physician when they are not feeling well. This is extended in some cases even to giving them advice on the prevention of having that "morning after" feeling.

There is one ailment I have not mentioned, but which I believe is worthy of consideration, and that is "worry." Today there are many reasons for employees worrying—they may have sons on the battlefronts or about to go, or they may be about to be drafted and have to leave a wife, or they may not be able to secure suitable housing or any one of the many other things that are so disturbing today. Toward the last of the year just past we found a sizable increase in accidents occurring. Somewhat by chance we found a slide film that dealt with how to treat your personal worries. This was shown at our regular safety meetings, and many employees commented on the sensible viewpoint shown by the firm, and that "it was a good thing to keep in mind." Our accident record improved markedly—maybe the film helped. At any rate, the problem of worry is here today, and I believe is worth considering as a factor in industrial health.

4. General Medical Services.—More and more industry is tending toward giving medication for minor ailments, such as treating colds, poison oak and similar sicknesses which normally receive no treatment at all or at best only home remedies.

In some cases they give eye examinations to determine whether the employee should take steps to procure glasses. My own company has had some experience in this connection. Although we have always given eye examinations in connection with either preemployment or periodic physical examinations, we went a step further in connection with our safety work, and gave auto driving eye examinations to drivers of our motor vehicle equipment. A surprisingly large number of drivers required corrective glasses; and while the program was entirely voluntary, some 94 per cent followed up the examination and secured such eye glasses as were necessary. In this particular phase of our work, as is the case in many such situations, the results of the examination on any individual were confidential between the safety engineers giving the test and the employee, and were not made known to supervisors or management. The fact that individuals received the program so well and followed

it up so completely seemed to indicate to us that they were very interested in correcting any eye deficiencies which they may have had.

A few companies have even gone to the extent of having psychiatric services available for their men as an aid in proper placement on the job and in helping to reduce or eliminate mental difficulties. However, very few industries provide general medical services, most of them limiting such services to minor ailments and counsel and advice.

5. Working with Community Health Agencies. Due to poor living conditions in crowded areas and the other effects of the war emergency, the medical divisions of large industries have been more and more interested in working with community, state and federal health agencies toward the improvement of public health conditions. Industry recognizes that this is a valuable service, both to public health as well as to industrial health.

6. Medical Services in Connection with Safety Work.—While most large industries have a safety division, there is an increasing trend toward having that division and the medical division work together on improving health. The doctor can assist in making inspections of working conditions, examining sanitary conditions and watching the new processes or new materials handled for dangers to health.

The employment of many women in our industries has created new conditions and the medical division's consideration of such matters as fatigue and working conditions for women is being requested more and more.

In addition, the medical division is being relied upon for the placement of handicapped or physically impaired people, and a first hand knowledge of the type of work performed on the job is important in this connection. Increasing emphasis is being placed on healthful postures and appropriate surroundings.

7. Provision of More Medical Services for Employees.—With the increasing interest of employees and the public generally for more available medical service, some industries have helped in the establishment of hospital or medical plans. Such general medical services are now under study by governmental agencies. The trend seems to be toward some plan or plans to provide the individual with more medical assistance than has been the case, and as this is so important in employees' minds industry is also becoming interested in helping through some appropriate means to assist in the matter.

The points I have mentioned are some of the highlights on current trends as I see them.

SUMMARY

1. The trend is definitely toward industry putting forth greater effort to improve industrial health.

2. Attention is being directed to more education for employees on health matters, on good living habits, on better working practices, and on seeking more advice and counsel on illnesses.

3. The trend is toward providing more medical services for employees—through first aid on minor illnesses and, perhaps, through medical plans or similar plans for the more severe illnesses.

Standard Oil of California,
225 Bush Street.

COMPULSORY HOSPITALIZATION OF RECALCITRANT TUBERCULOUS PATIENTS*

EDWARD KUPKA, M.D.
Los Angeles

ULTIMATE CONTROL OF TUBERCULOSIS.—The ultimate control of tuberculosis rests on three factors:

1. Find the persons affected with the disease, particularly those who excrete bacilli. The great accent of today's tuberculosis campaign is upon this factor. Early diagnosis campaigns, x-ray surveys of the apparently well, follow-up of contacts, special attention to certain racial, industrial, and age groups, school surveys with investigation of the families of reactors, are some phases of this effort. Here the voluntary associations and official agencies work in close cooperation. With the advent of the small x-ray film and increased federal participation, such as examination of Selective Service men, and the establishment of a Tuberculosis Bureau in the United States Public Health Service, case finding has felt a tremendous upsurge the last one or two years, and bids fair to become very extensive as time goes on.

2. Hospitalize those patients who need it. This phase has seen increasing governmental participation at all levels. The care of the tuberculous is now accepted as a necessary function of tax-supported institutions. Such tremendous strides in this field have been taken during the past twenty years that the bulk of the building may be considered as accomplished, except for certain corners of the country. Whether we can agree or not with Doctor Drolet's paradoxical hypothesis that collapse therapy does not affect the death rate, there is no disagreement as to the value of the sanatorium as a place of isolation. Without sanatorium beds in which to put communicable tuberculosis the value of case finding would be lessened materially.

3. Establish the legal power to make it possible to bring suspected persons in for examination and to compel isolation, if communicable tuberculosis can be demonstrated, when the patient is unwilling to take the necessary steps voluntarily. This function, which is entirely a governmental one, has not been widely practiced. As a rule the tuberculosis programs have been directed toward those who willingly came for examination and hospitalization, while those whom urging and explanations failed to win over have been spared the penalty of compulsion. The era of generalized tuberculinization of the population has long passed. It used to be that for every person who was persuaded or com-

pelled to enter a sanatorium there would be several other spreaders left in the population to keep the chain of tuberculous infection unbroken. Today, when in many states and counties there are adequate beds for all who need them, the uncontrolled known spreader calls for action.

ON EXTENT OF COÖPERATION

The vast majority of the tuberculous are cooperative. The incorrigible form a small per cent of the total. The problem does not loom large on the basis of their proportionate number of incorrigibles, but upon their magnified potential for harm to the community. If they are out of an institution, they are characterized mainly by their wilful comingling with the community and by failure to take precautions at home. In the institutions they become disciplinary problems, refuse to take the rest cure, upset the other patients, and usually leave without consent. The handling of this group, in or out of the sanatorium, is a strain upon the kindest doctors and nurses. From the standpoint of public health, it is the extramural patient group which is the most important, and most of the remainder will be extramural for significant periods, since going home without consent is a characteristic of the group.

THE INCORRIGIBLES

Who are the incorrigibles? They are persons suffering from active tuberculosis, whose sputum is grossly positive, who, after many warnings and attempts at hospitalization, continue to conduct themselves in such a manner as to endanger their families and their community. What makes them incorrigible? Certainly not the tuberculous infection. Most of the incorrigibles would be problem men and women even if they did not have tuberculosis. Some are chronic alcoholics—the variety that drifts in and out of local jails, and in and out of state mental hospitals. A significant portion is comprised of borderline psychotics—not insane enough to convince a jury that they are comitable to a state institution, but sufficiently unbalanced to be antisocial and difficult to handle. A few are narcotic addicts or ex-addicts. Some of the incorrigibility is due to simple ignorance and fear. A few are average individuals who have accepted hospitalization, and, finding it not to their liking, decide to make such a nuisance of themselves that, in self-defense and to maintain the morale of his institution, the medical director is compelled to expel them.

Our social service friends urge us not to forget that each of the recalcitrant tuberculous is, first of all, a human being, and, further, a wretched human being, who is reacting understandably to a difficult situation. For these reasons, they urge us to approach the patient as tactfully and kindly as possible. I am sure that, in the vast majority of cases, physicians, nurses, public health officers, social workers, ministers, and understanding relatives, all have exhausted the usual considerate means of approach. The difficult patient who will react favorably toward decent treatment and adequate explanation is not incorrigible. It is only when

* From the State Department of Public Health, Los Angeles.

Read before the California Tuberculosis Association and the California Trudeau Society, Fresno, April 7, 1943.

these means have been found ineffectual that the problem calls for other than the humane approach. It has been truly said that one difficult patient can cause more headache to a health officer or to a sanatorium director than the collective problem of several dozen cooperative patients.

Granting, then, that all customary methods have been tried to bring the patient into line and have failed, what legal machinery can be invoked to cope with this menace to public health?

We naturally turn to the State Health and Safety Code as the final legal authority for all the powers of health officials, and we find there, under Section 2554, this regulation:

Each health officer and coroner knowing or having reason to believe that any case of—and here are listed thirty-four communicable diseases, including tuberculosis—or any other contagious or infectious disease exists or has recently existed within the territory under his jurisdiction, shall take such measures as may be necessary to prevent the spread of the disease.

COMMENT

I leave to Mr. Martin, who will discuss this subject from the standpoint of a lawyer, elaboration upon the powers thus given to the health officer; but I emphasize here that they include the orders of isolation served upon tuberculous individuals.

In another section of the Health and Safety Code, similar powers are given to the State Department of Health, which may step into a jurisdiction, when the local authority neglects or cannot perform its function, and enforce similar powers. So we find that both the local health officer and the State health officer have this power; but, from a practical standpoint, it is hardly ever used by the latter, and is reserved for emergencies, as, for example, a plague epidemic, when the local jurisdiction could not handle the situation.

Most health officers are aware of their power in this matter. They feel the need of the power in connection with the recalcitrant tuberculous and would like to bring them to bar. However, in some counties they have been unable to convince the district attorneys. Sometimes the district attorneys will point to the section giving the State health officer that power and ask for an order from the State before legal action is begun. However, such orders have not been forthcoming for the reason given above. Some district attorneys, and, it must be said, some health officers, too, feel that they cannot act as directly in a chronic disease like tuberculosis as in an acute disease like smallpox, and fear that public opinion would not be behind them. It is a fact that in most of the counties of this State there has never been a single order of isolation issued against a tuberculous person, and, therefore, for the officials of those counties it would be a step in a new and untried field fraught with unanticipated developments. Obviously, the health officers cannot go far without the cooperation of the district attorneys if penalties are to be imposed for the breaking of isolation.

EXPERIENCES IN LOS ANGELES COUNTY

The extensive and enduring experience of Los Angeles County indicates that only a small fraction

of those upon whom orders of isolation are served need ever be taken to court. The majority obey the orders. Even the jail sentence does not in fact turn out to be as cruel as it sounds, since the majority of those sentenced are paroled to the sanatorium and are sent to jail only if they again break isolation. Doctor Telford will be able to tell us more of the details in his discussion. It would seem highly desirable for other counties to follow the aggressive and successful methods of Los Angeles County.

Three weeks ago a meeting was held in Los Angeles to debate the topic now under discussion. Sanatorium physicians, health officers, social workers, and others, were invited to participate. Many phases of the matter were roundly thrashed out. Some of the constructive suggestions made are incorporated in the remaining paragraphs of this paper.

Granting that we have the problem, that it is a big problem, and that we have the machinery to handle it, there remains the task of fitting this machinery to an individual patient. Degrees of communicability are varied, the various personal problems of the recalcitrants are many, and the number and quality of available beds in which to isolate them differ widely from county to county. It may be truthfully said that some counties cannot, by virtue of their special situations, handle the matter as other counties do. Mono County, with 1,400 people, scattered over a wide area, and no beds for tuberculosis, cannot do the same as San Francisco County.

SOME GENERAL PRINCIPLES

However, there are certain generalizations which hold for all counties, and to help make the isolation of the incorrigible more effective and more easy, the following proposals have been made:

First, the regulations of the State Department of Health regarding communicable disease should be strengthened in regard to tuberculosis. This has been done by Doctor Wynns, State Epidemiologist, who recently revised the regulations for all communicable diseases, and in the new version which was recently adopted by the State Board of Health the following phrase is added to the section on tuberculosis:

Patients afflicted with tuberculosis in a communicable stage who refuse to observe the health officers' instructions and thereby expose others needlessly to infection shall be placed in quarantine; and in the event that such quarantine proves inadequate for the protection of members of the household or the community the patient shall be placed in isolation in quarters designated by the local health officer until such time as such quarantine or isolation is no longer necessary for the protection of the public.

This regulation is very specific and provides for either quarantine or isolation. It also makes the local health officer the deciding authority in the matter, which is as it should be.

Parenthetically, it may be agreed that quarantine has little or no place in the control of tuberculosis. Isolation is the necessary method. In the above regulation, quarantine is mentioned first for the sake of completeness, and, second, because the

Health and Safety Code stresses the word "quarantine." Property is quarantined, of course, but persons are isolated.

A second method of improving the situation would be to convince those health officers who do not believe so, that they have this power of isolating the tuberculous. There are some who, if reassured as to their power, would not hesitate to use it. There is, too, a group of health officers who know they have the power, but hesitate to apply it. Some of the reasons are intimately bound up with the feeling tone of other officials of the county.

Thirdly, the district attorneys about the State must be shown that when the health officer wishes to bring a case before the court on the charge of breaking isolation he must be supported legally by them. We have now a clear statement from representatives of the Attorney-General's Office that, under these circumstances, it is the duty of the district attorney properly to prepare the case and to prosecute the recalcitrant before the court.

The health officer must remember that the burden of proof is upon him to establish the communicability of the patient. He must have a "good case." It goes without saying, to begin with, that since action is usually considered only in the most obvious cases there should be no difficulty in making an acceptable brief. On his side the attorney must prepare the case adequately.

The usual criterion of communicability is a "grossly positive" sputum. This is taken by most to mean bacillus demonstration by an *unconcentrated* smear of the sputum. But this is not the only criterion. A large cavity might lead into a temporarily blocked bronchus, which would result in a temporarily negative sputum. Or evidently active disease might be present in a patient who would bring in someone else's sputum. The health officer should utilize additional methods and verify his opinion, and gastric lavage is one way of getting the sputum from the right individual. The Health and Safety Code provides power of examining persons "suspected" of having a communicable disease. Again the district attorney's insistence is necessary in the bringing of a recalcitrant to examination.

A fourth suggestion which is attractive to many is the creation of a State sanatorium which would be reserved for certain special categories of patients. Even if we did not have the incorrigible to deal with, we would still need a State sanatorium for patients who have State but not county residence, for patients who are nonresidents awaiting return or are not returnable to their home communities, and for patients coming from the smallest counties which have no tuberculosis bed facilities at all. Such a State institution could also have a locked ward to which judges could sentence the incorrigible tuberculous. This would do away with the disadvantage of keeping isolation breakers in a small prison in close contact with other prisoners. It would save the morale of institutions to which otherwise such a patient would be sent, and where he would have a demoralizing effect. Further, the very existence of such an institution, when known

generally throughout the State, would act as a deterrent to the would-be incorrigible. Sometimes, as has been brought out by others, judges hesitate to send patients to tuberculosis facilities which are of unsatisfactory grade. The type of medical care in this proposed State institution could be of such high quality that there would be no question as to the advisability of sending a patient there.

Fifthly, all institutions for the care of the tuberculous should immediately report the identity and status of communicability of every discharged case to the local health officer. This is especially important when several counties are served by one sanatorium.

Lastly, as has been emphasized by everyone who has written or spoken of this problem, we must intensify our campaign of educating the public in regard to the dangers of tuberculosis. A certain amount of soft-pedaling has come into our publicity to take the horror-story coloring from tuberculosis; but no amount of softening can hide the fact that it is a disagreeable and deadly disease, and that those who wilfully expose others to it are as guilty of a breach in human conduct as those who poison food or kill by more violent means. The public must be told the danger in plain words. Here the voluntary associations, with able use of publicity media, can help a great deal. When the menace of the occasional uncoöperative and defiant vectors of infection is sufficiently emphasized, an aroused public opinion will demand the effectual control of such individuals.

State Department of Public Health,

COMPULSORY HOSPITALIZATION OF RECALCITRANT TUBERCULOUS PATIENTS*

ALLEN L. MARTIN
Sacramento

ONE of the most important of all health regulations is that directed to the exclusion of communicable diseases and the keeping of such diseases, when they once gain an entrance, within the smallest possible limits and providing for the establishment and enforcement of regulations by which their general dissemination shall be prevented and their continued existence rendered improbable or impossible. Power to make quarantine regulations is one of the most frequent powers conferred upon boards of health. The authority of health officers or boards of health to quarantine for scarlet fever, diphtheria, smallpox, measles, and other such common maladies, is so well recognized, both as a practical measure and by judicial endorsement, that any comment concerning such authority would be superfluous. However, it appears that no definite steps have been taken with respect to the quarantine of those infected with

* From the office of the Attorney-General, State of California.

An opinion. Read before the California Tuberculosis Association and the California Trudeau Society, Fresno, April 7, 1943.

tuberculosis. An examination of several of the leading law digests has failed to uncover any cases in which definite judicial endorsement has been placed upon the power of health officers or boards of health to quarantine for such a disease.

ON POWER TO QUARANTINE

However, it is my opinion that health authorities—at least in the State of California—have the power to quarantine in case of an active case of tuberculosis. It is expressly provided in Section 2558 of the Health and Safety Code:

Whenever, in the judgment of the State Department, it is necessary for the protection or preservation of the public health, each health officer shall, when directed by the State Department, do the following:

(a) Quarantine and disinfect persons, animals, houses or rooms, in accordance with general and specific instructions of the State Department.

Health and Safety Code Sections 2561 and 2563 provide the mechanics for such quarantine.

Health and Safety Code Section 2554 provides, in part, that "each health officer . . . knowing or having reason to believe that any active case of . . . tuberculosis . . . or any other contagious or infectious disease exists, or has recently existed, within the territory under his jurisdiction, shall take such measures as may be necessary to prevent the spread of the disease."

Health and Safety Code Section 2524 provides, in part, that the State Department of Public Health, upon being informed by a health officer of any contagious, infectious, or communicable disease, may take such measures as are necessary to ascertain the nature of the disease and prevent its spread. The section further provides that the State Department may, if it considers such action proper, take possession or control of the body of any living person in order to accomplish the purposes authorized by this code section.

Health and Safety Code Section 2571 classifies tuberculosis as a "reportable" disease. The last paragraph of Section 2571 provides that any of the diseases enumerated in the section and classified therein as reportable, and such others as from time to time may be added by the State Department, shall be quarantined whenever, in the opinion of the State Department, that action is necessary for the protection of the public health, and shall be isolated whenever, in the opinion of the Department or health officer, isolation is necessary for the protection of public health.

Health and Safety Code Sections 200-209 vest the State Department of Public Health with blanket authority to take all reasonable steps and measures to protect and preserve the public health. Thus, since the Legislature has recognized tuberculosis as a contagious, infectious and communicable disease, and in one of which sections (Sec. 2571) specific authority to quarantine is given, it cannot be contended successfully that the health departments or health officers are without authority to quarantine and isolate for such a disease.

The courts in this State, as well as in other states, have recognized that it is sound public policy for

health authorities to take reasonable steps to prevent the spread of diseases.

Grover vs. Zook, 87 Pac. 638;
Adams vs. City of Milwaukee, 129 N. W. 518;
In re Johnson, 40 Cal. App. 242;
In re Culver, 187 Cal. App. 437;
In re Arata, 52 Cal. App. 380;
In re Travers, 48 Cal. App. 765.

COMMENT

While the powers of health authorities are very extensive and will be upheld whenever possible, and every presumption indulged in to sustain the validity of their action, their powers are not absolute. The power to quarantine must be exercised only when public necessity demands it within reasonable and fair apprehension, and not on mere suspicion. Whether a quarantine order is justified depends upon the facts of each individual case. A condition precedent to the exercise of the quarantine authority is that the health officer shall know or have reason to believe that the disease exists or has recently existed (Health and Safety Code, Section 2554). In the exercise of this unusual power, which infringes upon the right of liberty of the individual, personal restraint can only be imposed where, under the facts as brought within the knowledge of the health authorities, reasonable grounds exist to support the belief that the person is afflicted as claimed. Where a person so restrained of his or her liberty questions the power of the health authorities to impose such restraint, the burden is immediately upon the latter to justify by showing facts in support of the order. It might be proved, for instance, that the infected person had been exposed to contagious or infectious influence; that some person had contracted the disease from him or her, as the case might be. Such proof would furnish tangible ground for the belief that the person was afflicted as claimed.

In re Arata, 52 Cal. App. 380;
In re Milstead, 44 Cal. App. 239.

More than mere suspicion that the individual is afflicted is necessary to give the officer "reason to believe."

In re Shepard, 51 Cal. App. 49;
In re Dayton, 52 Cal. App. 635.

If reasonable cause to believe that the person involved is afflicted with a quarantinable disease, the person may be quarantined upon a preliminary examination.

In re Milstead, 44 Cal. App. 239.

Under date of March 7, 1941, the Attorney-General's office ruled that the Director of the Department of Public Health was authorized to request the health officers of a certain locality in the State to quarantine an active case of tuberculosis. (Opinion NS3330.)

CONCLUSIONS

1. Health authorities are authorized to quarantine for an active case of tuberculosis, upon the basis of the provisions of the Health and Safety Code, hereinabove referred to, in addition to the theme which is present in all court decisions construing these and similar health laws.

2. This authority must be exercised prudently. Reason to believe that the disease exists as a prerequisite to the quarantine must be present. The burden is on the health officer to show that reasonable cause exists.

What constitutes reasonable cause depends upon the peculiar facts of each case. The duration of the quarantine and other conditions of the same are left to the rule-making discretion of the health authorities.

Attorney General's Office.

COMPULSORY HOSPITALIZATION OF RECALCITRANT TUBERCULOUS PATIENTS*

J. O. RAFFETY, M. D.
San Francisco

FORTUNATELY, in both counties in which I have served as health officer, I was second, and thereby profited from the experience of my immediate predecessors, both of whom were excellent men, but moved too fast for the people of the community.

I sincerely honor and respect those in the Los Angeles County Health Department who have been successfully isolating tuberculous cases, and believe that others should follow suit. I do also believe, however, that the young health officer in a young department should bide his time and first develop the community organization.

On one tuberculous patient whom I felt sure should be quarantined, my District Attorney advised me not to get into court with the case, primarily because the family would no longer be self-supporting and would have to go on relief. This is not a criticism of the District Attorney, but a criticism of a lack of community health viewpoint.

Until such time as the community is ready to accept its responsibility, and until social welfare departments are enabled to properly care for the dependents of the isolated tuberculous patients, the young health officer is dealing with political dynamite.

There is another reason why the young health officer has to go slow in quarantining tuberculous cases. In one county there were about twenty families who were related. One of the men in one of these families had a chest x-ray to support the clinical evidence of a broken rib, and far-advanced pulmonary tuberculosis was diagnosed. He reluctantly entered a sanatorium one hundred miles away from home, and there was considerable dissension in this whole clan.

Shortly thereafter a mother of two preschool children was found with a large cavity in the left lung and positive sputum. It took our department six months and visits by different department members over that period of time to finally get this mother to voluntarily enter the sanatorium. I do

believe that had we quarantined the first or second case it would have been considerable time before we could have obtained the cooperation of other members of this clan, out of which we found other cases of tuberculosis.

Another point is that after perhaps working for months to find a case and to induce the patient to enter the sanatorium, the next thing the young health officer knows is the case has been discharged from the sanatorium without his knowledge for "cause." Then he is faced with the possibility of making a place of isolation out of a house that is already too small for the number of persons that are forced to live under one roof.

May I summarize by saying that although I heartily agree with Doctor Kupka and feel definitely that something should be done, in the light of my experience I feel that the young health officer should first develop his community organization and public health ideals in the community before tackling this serious problem. Community health organization is his greatest task in the beginning. He should not jeopardize his whole program perhaps for several years to come by tackling this isolation problem first.

The mere appointment of a health officer in a county does not solve the public health problems overnight.

1. Community health organization must first be well established.

2. The community must adequately accept its responsibility for the care of dependents left by forcibly isolated tuberculous patients.

3. There must be a place where the recalcitrant tuberculous patients can be kept so that the more obstreperous ones are not the ones that the health officer has to be continually dealing with.

I feel that local tuberculosis associations have a lot more work to do before the young health officer can put his excellent theories into actual practice.

State Department of Public Health,
Phelan Building.

COMPULSORY HOSPITALIZATION OF RECALCITRANT TUBERCULOUS PATIENTS*

P. K. TELFORD, M. D.
Los Angeles

TRUDEAU stated, in 1905, "Education of the people and, through them, of the State is the first and greatest need in the prevention of tuberculosis." Progress made since that time in teaching the patient and the general public the lesson of prevention cannot be overestimated. There remains, however, an enormous amount of necessary work to be done in this field. If surveys are promoted to universal application and collapse therapy is applied to its maximum effectiveness, it will still be necessary to apply more intensive supervision over

* From the State Department of Public Health, San Francisco.

Discussion on symposium, "Recalcitrant Tuberculous Patients," before the California Tuberculosis Association and the California Trudeau Society, Fresno, April 7, 1943.

* From the Los Angeles County Health Department, Los Angeles.

Discussion on symposium, "Recalcitrant Tuberculous Patients," before the California Tuberculosis Association and the California Trudeau Society, Fresno, April 7, 1943.

the communicable cases, and a health department order of isolation in a considerable percentage before the spread is stopped. Public education will still be the necessary implement. It must be generally known and accepted by the public that an immediate increase in public cost is necessary, but that the result will be a great saving in the tuberculosis budget in a very few years. Health workers are well aware of the difficulty of selling health safety measures to the public. It requires the assistance of specialists in this sort of publicity, and in particular the endorsement and backing of this Tuberculosis Association. There is still a prevalent attitude of complacency toward tuberculosis, as each individual feels that he will never become a victim. He has a fixed conviction that his family is so resistant his protection is assured. We must teach him the fallacy of this attitude and induce him to shoulder the cost of keeping the dangerous case away from him, of treating the patient, and accepting all the social adjustments entailed.

You might wonder why emphasis is put on these more or less intangible and extraneous factors when there are so many questions of detail to settle. After considerable experience with the program over a long period of years, we feel that nothing matters much but this. If the public wants it, it will work; and if they do not want it, it will not work regardless of state laws or how well they are applied. If a menace exists and the public wants protection, the worker will meet the challenge and do as good a job as his tools permit. The fundamental training of medical workers has so indoctrinated them with the responsibility of humanely treating the sick that we need have no fear of intentional misapplication of this authority.

As the basic needs of segregation become better understood, I predict that isolation in the home will be found practicable in many more instances when sanatorium treatment is complete or not indicated for any reason. However, satisfactory home isolation requires considerable supervision and an honest desire on the part of the patient to make it successful. The great majority of patients will coöperate when the need is understood; but there will remain the dregs of alcoholics, borderline mental patients, the spoiled self-willed, and the mean persons who need restraint and must be handled with more or less force, as do all enemies of society.

County Health Department.

THE X-RAYING OF SCHOOL PERSONNEL*

R. R. NEWELL, M. D.
San Francisco

THE present concept of the dominant pattern of the natural history of human tuberculosis is: a primary infection usually in childhood, recovery leaving perhaps visible scar in lung and occasionally calcification in tracheobronchial lymph nodes,

and an invisible alteration in tissue sensitivity to the biologic products of the tubercle bacillus. A reinfection of the disease at a later time, most often along in the decade after puberty, with the likelihood of developing into the adult type of the disease which was for so many years known by the descriptive name of "consumption of the lungs." It is in this stage that caseation and liquefaction and cavity formation with ulceration of mucous membrane can develop, and it is such cases that spread tubercle bacilli to infect and reinfect the rest of the population. To call such "open cases of tuberculosis" calls attention to the fact that they are the ones that are dangerous from an epidemiological standpoint.

It is well known that there are many "cases" of open tuberculosis who are unaware that they are suffering from tuberculosis, and that there are some who are unaware even that they are ill. To discover them, therefore, and remove them from the streets and public buildings where they are a health menace to everyone not already reinfecting with tuberculosis, it is not sufficient to demand that the general practitioner report them to the department of health. There are too many of them who do not go to see a physician. It is necessary to comb the population for such cases, and the finest comb that we have available at present is the x-ray film of the chest.

SCHOOL ENVIRONMENTS

In the schools we have a social mechanism which brings large numbers of children into repeated contact over long periods of time, and so is ideal for the spread of infectious diseases. We know, however, that open tuberculosis in childhood is uncommon, and that the primary infections with tuberculosis in children are not much of a contagion hazard because: when, the child is acutely ill he is at home, and later when he returns to school he has recovered. Therefore, one concludes that the children are not much of a tuberculosis hazard to each other.

The teachers and janitorial and secretarial personnel of the schools are, however, of the age group which may suffer from open tuberculosis; and, in fact, we know from the statistics of surveys in many places that from three to ten in a thousand may be expected to have the adult or reinfection type of pulmonary tuberculosis. Some of these will actually be open cases that are spreading tubercle bacilli. Among the 3,000 employees of the public schools of San Francisco one may, therefore, expect between ten and thirty persons who are actually or potentially spreaders of tuberculosis. Tuberculous sputum from one such person dried upon the floor has really an excellent chance at several hundred children, some of whom will have started school with a negative tuberculin reaction, and so be candidates for a primary tuberculous infection; and the rest of whom will have started school with a positive tuberculin reaction and so presumably be candidates for reinfection with tuberculosis if the dosage of bacilli inhaled or swallowed is sufficiently large.

* From the University of California, San Francisco.
Read before the California Tuberculosis Association, Fresno, April 7, 1943.

EXTRAMURAL ENVIRONMENTS

What the relative danger between the schoolroom and the street and the home is, cannot be answered with certainty. It is surely not sensible to spend all one's available health funds on the schoolroom and leave the street and the home uncontrolled if the child is reasonably sure to pick up an infection outside the schoolroom anyway. However, considering the goodly incidence of negative tuberculin among children of teen age, one must conclude that it is by no means certain that a child will get tuberculosis from his exposure in street and home (and movie theater, and so forth, and so forth). I think, therefore, it is reasonable to give a high presumptive importance to the large number of susceptible children who will be exposed to tubercle bacilli from a single tuberculous teacher.

There are available four or five roentgen methods of tuberculosis survey: fluoroscopy, 35 mm. miniature fluorography, 4 x 5 miniature fluorography, 14 x 17 full-size paper, 14 x 17 full-size films. These increase in efficiency about in the order named. Their cost also increases about in the order named, although fluoroscopy is somewhat more consuming of the physician's time, and so its place in the economic series depends upon how adequately one pays the fluoroscopist; or to put it another way, how much free service one can get from public-spirited fluoroscopists. All of these methods have been used with some success in general population surveys. Although the cost per person examined is not terribly high, yet the incidence of tuberculosis in a population is so low that the cost of catching each individual case of tuberculosis mounts up to several hundred dollars.

SAN FRANCISCO'S EXPERIENCE WITH
FLUOROSCOPIC SURVEY

We have in San Francisco some experience with a fluoroscopic survey, part of which was carried out in Chinatown where the incidence of tuberculosis is high, and which turned up a considerable number of cases. It is interesting to observe that about 20 per cent of these cases turned out to have been lost to follow-up, and no one can now say for sure whether those cases of tuberculosis are under a physician's care nor even know whether they are still in San Francisco. In such a situation it becomes a matter of secondary importance whether one case-finding method is 90 per cent efficient or only 85 per cent. If the more efficient method is more expensive, it might be an overall economy to choose the less expensive case-finding method, and use the money saved to better the efficiency of the follow-up.

In the case of the teachers and the other school employees, however, the matter is quite different, for practically none of these will be lost to follow-up—one does actually know where they are all the time. If any of them should disappear from follow-up it would be because he had left the school, and so would no longer be such a hazard to the school children of San Francisco. Under these circumstances, therefore, one must measure the in-

creased cost of the more efficient methods of case finding against the presumptive cost to San Francisco of one missed case whose continued presence in the school might easily mean the production of one or several extra cases of reinfection tuberculosis among the school children; and then look at the very large cost of caring for a single case of reinfection type of pulmonary tuberculosis with the very long average duration from onset to recovery. I dare say, if one were actually able to put money-price on the social cost of each single case of pulmonary tuberculosis, and actually able to measure the relative hazard of school contact versus all the other contacts, and actually able to measure the increased incidence of tuberculosis from the presence of one tuberculous school employee, one would find \$10,000 not too high a price to pay to catch the very last case of tuberculosis among the school employees—or even \$20,000.

Stanford University Hospital.

THE X-RAYING OF SCHOOL PERSONNEL*

DAVID T. PROCTOR, M. D.
Pasadena

TUBERCULOSIS case-finding surveys in the teacher and noncertificated school employee group have been slow in developing into full-scale projects. This type of survey is a natural outgrowth of examination of school children which has been going on for years. It would logically seem that both groups should be examined together and this has been tried, on the voluntary basis, and following preliminary education, in most instances. Because the results were so disappointing it has been necessary to make a separate drive and a different approach in the employee group. Where in students the response has been 70 per cent or better, that in personnel has been 50 per cent and below. This is a strong indictment against the method or the employee or both.

CONTACT GROUPS INVOLVED

We have learned from years of experience that the highest incidence of significant tuberculosis is in the adult group, and, even more, that reinfection tuberculosis is relatively uncommon in the grammar school child. Consequently, the school program is incomplete unless all the personnel have been x-rayed and certified free from active infectious tuberculosis. Unless 100 per cent are examined, the program is still incomplete; for the individual with active tuberculosis who fears losing his job may refuse to be x-rayed, and therefore may infect most of those in his room.

How then shall this group be approached? Will a better educational program be effective or will it be necessary to use compulsion? Although little has been written about it, there remains a definite impression that most tuberculosis associations and

* From the Los Angeles County Tuberculosis Association. Read before the California Tuberculosis Association, Fresno, April 7, 1943.

health departments feel that compulsion is necessary. This has been the definite experience of the Los Angeles County Tuberculosis Association for the past 12 to 15 years.

PROCEDURES IN VARIOUS COMMUNITIES

The notable example of such a requirement on a state-wide basis is the State of Washington, where all private and public school personnel must be certified free from active tuberculosis. New York requires such certification as a prerequisite to a teaching license. California permits the local school board to pass such a ruling, but has not yet achieved the passage of a legislative statute. I cannot give the list but I understand that a number of other states are now demanding such certification.

The procedure is worthy of a little discussion because it is necessary to take into consideration the viewpoint of the individual, the organized teacher group as a whole, the private physician and the private roentgenologist. All such considerations must be secondary to that of public health welfare, so the procedure most acceptable is that one most efficient in discovering the most cases of tuberculosis. In evaluating efficiency of method there must be uniformity of technic.

In New York, the Health Department depends entirely on the x-ray which is taken and interpreted by its own staff. In Washington, the film may be taken by the private physician, but must be acceptable to and interpreted by a board of roentgenologists and phthisiologists appointed by the State Board of Health. For some years a negative tuberculin test, administered and read by the private physician was accepted, but this was found to be unsatisfactory so the method was changed.

In Los Angeles County each local school board has passed its own ruling requiring an x-ray of all its employees, then the County Health Department and County Tuberculosis Association combine facilities to provide the examination.

The statutory method of Washington caused a considerable furore among the teachers, particularly because they had to pay for it, but Doctor Soderstrom states in the March *National Tuberculosis Association Bulletin* that now the "campaign to protect school children from classroom exposure goes forward in harmony."

We have heard little complaint, and in some districts the teachers even voted to ask the school board to pass the ruling requiring such an examination. As the momentum increases, it will become easier and easier for other districts to install similar programs.

WHO SHOULD MAKE THE SURVEYS?

Private roentgenologists, individually and collectively, have from time to time voiced considerable objection to methods being used in making tuberculosis surveys. They feel that work is being taken from them by this use of Christmas Seal or tax money. It has been my experience that the private roentgenologist feels that he has not the time to

have such survey groups running through his office, even if they could be taken away from work long enough to go there.

Survey and private x-ray costs are far apart; consequently the roentgenologist cannot afford to do much of this type of work under his present set-up.

The educational work and the cases found by tuberculosis association surveys certainly bring considerably more business to the private x-ray man. This is particularly true with the use of the new photoroentgen method.

In my opinion, the ideal way is for the tuberculosis association or health department to make the initial survey, in whatever group, then all follow-up or new employee films to be obtained privately. However, all certification should be in the hands of a board such as was established in the State of Washington. Tuberculosis workers are interested only in rooting out hidden cases of tuberculosis and will welcome assistance from any individual or group toward that end.

While it is true that exposing children to tuberculosis by even one teacher should be prevented, there are some qualified men who feel that survey money could be spent to much better advantage in other groups. Maybe we shouldn't spend any money on this group.

LOS ANGELES COUNTY STATISTICS

Consider a brief summary of statistics from the Los Angeles County Tuberculosis Association. In the years 1939-1942, inclusive, 5,526 school employees were x-rayed. Of these 122 or 2.2 per cent were diagnosed as having chronic pulmonary tuberculosis, and 12 or 0.2 per cent of the whole group as having clinically significant tuberculosis. Average age was 41. There was no significant difference between sexes or between certificated and non-certificated employees. The average age for certificated was 39, and for noncertificated 43, and, as would be expected, more tuberculosis was found in the older ages, incidence being about twice as high above 35 as below.

Edwards reports 1.0 per cent incidence of clinically significant tuberculosis, and 2.6 per cent total chronic tuberculosis in 3,185 New York teacher applicants with an average age of 29 years.

IN CONCLUSION

May I, in conclusion, humbly submit some opinions gleaned from over 3 years' close contact with school personnel surveys.

1. Tuberculosis surveys in this group are not profitable from the standpoint of clinically significant cases found as compared to other groups. So, if you are spending tax money and must show "pay dirt," go to some other group.

2. Children must be protected from tuberculosis contact, so school employees must be certified free from tuberculosis. Consequently, all should be x-rayed at least once and this will probably have to be underwritten by Christmas Seals.

3. Repeat examinations on those with negative films need not be oftener than every five years, unless clinical evidence to the contrary supervenes. These should be provided by the individual, or by the school board itself.

4. An applicant should be required to submit a diagnostic chest film with his credentials.

5. All films should be passed on by a board of experts appointed by the health officer.

6. Legislation, local school district or by state statute, is necessary to achieve this end, but the backing of organized teachers should be obtained, if possible.

7. In so far as possible, the private physician and private roentgenologist should be made a part of this program; but this desire must be subordinated to the need for uniformity and topnotch efficiency.

8. School employee surveys afford an excellent opportunity for educational work in a group capable of spreading far the truth about tuberculosis.

9. Follow-up of all chronic tuberculosis cases found should be closely supervised by the health department.

10. All reports should be kept confidential.

11. However, our main effort now should be in industry, and in high incidence groups, leaving the teachers for spare time and after the war.

65 North Madison Avenue.

TUBERCULOSIS AMONG STUDENT NURSES AND CONTACT EXAMINATIONS IN A GENERAL HOSPITAL*†

JOHN B. BARNWELL, M. D.

AND

JACOB M. BECKERMAN, Dr. P. H.

Ann Arbor, Michigan

THE students who apply for nurses' training are the same age group as those who apply for entrance to the College of Literature and Arts at the University of Michigan. Yet we find five times more preëxisting pulmonary tuberculosis in the applicants to the nursing school than in the applicants to the College, but fewer student nurses react to tuberculin.

Only 38 per cent of the women on the campus finish the four-year college course, and only 48.7 per cent of the students finish three years' training in nursing. For reasons other than tuberculosis, the student nurses drop out at a fairly regular rate throughout the three years, except when a large number are dropped as scholastic failures at the end of the first semester. There are, then, a constantly diminishing number to be "exposed" to the one month's training on the Tuberculosis Unit,

which comes some time in the last eighteen months of the three-year training period.

PERSONNEL EXAMINED

In the period of this study, January, 1932, to July, 1940, none of 611 nurses who started training came down with tuberculosis in the first year of training. For the rate of breakdown, or morbidity rate, in the second and third year of training, the statistical method of the "survival rate" of Frost¹ was suggested by Hilleboe.² Of 425 students who started the second year of training, six came down with tuberculosis and 98.4 per cent survived the full two years of training. Of the 312 students who started the third year of training, eight developed tuberculosis and 96 per cent survived the full three years of training. Thus, the loss in survival rate after the first year was gradual and showed no influence due to the specific exposure of the one-month tuberculosis training.

On entering training, 48.1 per cent of the student nurses gave no reaction to a strong tuberculin. Of these negative, 46.4 per cent remained negative throughout the course of training. By use of the "survival rate" for infection, as was done for disease, it was found that the rate of infection, or the survival from infection, progressed gradually through six-month periods with no sharp increases to indicate the influence of any particular service. At the end of the first six months of training, 96 per cent survived with negative tuberculin. At the end of the first eighteen months, 70.4 per cent survived or remained negative, while 46.4 per cent survived the three years' training.

A search of the records revealed only 90 student nurses who arrived at the tuberculosis service with negative tuberculin and with sufficiently clear tuberculin records to analyze the effect of the service on the conversion of negative to positive tuberculin reaction. Of this 90, there were 57 who were negative before the service, during the service and after the service. There were only three who were clearly negative before the service and who became positive after the service. The remaining 30 were negative before the service, but the subsequent tests were either not made or were made so long after the tuberculosis service that no conclusion could be drawn as to the effect of the service.

COMMENT

This evidence suggested that the tuberculosis service in this general hospital was not the only factor in the production of infection and disease among the student nurses, and perhaps was not even the major factor. The hospital records revealed that, from 1934 to 1940, the known cases of pulmonary tuberculosis were 2,932, and that only 54 per cent of these were treated on the two floors reserved for the tuberculous patients. It had further been found that 4 per cent of the sputum specimens found on the steps at the entrance to this general hospital contained acid-fast bacilli on direct smear.

REPORT ON A SPECIAL CASE

On July 17, 1938, the hospital admitted a student nurse whose case became of singular interest

*A preliminary report read before the California Trudeau Society and the California Tuberculosis Association, Fresno, April 8, 1943. From the Tuberculosis Unit, Department of Internal Medicine, University of Michigan Hospital, Ann Arbor, Michigan.

†Statistical study aided in part by grants from the Horace H. Rackham and the Faculty Research Funds of the University of Michigan.

in the light it shed upon this problem. She had an acute cold with fever and a productive cough. The tuberculin and the sputum were found to be positive on admission, and the x-ray showed a moderately advanced cavernous tuberculosis confined to the left lower lobe. On February 18 of that year she had had a negative x-ray, and on April 21 her tuberculin had been negative. She had never served on the Tuberculosis Unit and the rapidity of the progress through first infection to reinfection and cavity was unusual. On questioning, she readily pointed out two patients she had attended on a general surgical ward, and on whom a diagnosis of pulmonary tuberculosis had been delayed.

One of these was a patient admitted as "Concussion? Brain tumor? Subdural hematoma." He was semi-comatose and went through several cranial trephinations. The nurses' notes contained frequent references to his cough and to the mucus that had to be wiped off his lips. Two months later the sputum was found to contain tubercle bacilli on the first examination. The x-ray showed unilateral cavity which should have been under treatment.

The other patient the student said she had nursed was admitted as "Ruptured appendix? and epilepsy." The patient knew that she had tuberculosis, but that part of the clinical picture was being ignored in the immediate interest of the appendiceal crisis and the frequent attacks of epilepsy. This patient remained in the surgical ward for seven weeks with no precautions taken toward sputum disposal, though the sputum was loaded with tubercle bacilli when it was first examined.

This situation presented an unusual opportunity for examination and follow-up of all the nurses who had attended these patients under circumstances where the duration and time of the contact was unusually well known. The hospital administration was asked to x-ray all these contacts at once and at three-month intervals for the next eighteen months.

From the nurses' notes it was found that 44 graduate nurses had made some report on service to these two patients. These 44 graduates reported a total of 530 such services to the two patients. Yet, of the 44 graduates only two were later diagnosed as having tuberculosis. Both of these had positive tuberculin before this contact, and by hindsight the beginning of the parenchymal involvement in the lung could be traced back to earlier x-rays.

By contrast, there were only 26 student nurses with reports of a total of 281 services to these two patients. Yet, four of the 26 students later came down with tuberculosis and all four had negative tuberculin before contact with these two patients. Only two of the four students had a service on the Tuberculosis Unit.

They came down in this order: First was the student who reported these two patients. She had moderately advanced cavity within 56 days of her first known contact. The second died of miliary tuberculosis 12 months after this first known contact, and six months after a one-month service on the Tuberculosis Unit. The relative influence of

these two contacts is difficult to determine. This student was reported to the head nurse of the Tuberculosis Unit as being careless in her technique, and the student was assigned to no patients with positive sputum while on this service. The third student developed pleural effusion 19 months after this first known contact and eight months after the tuberculosis service; while the fourth student had pleurisy with effusion 24 months after the first but 21 months after her last contact with these two patients. All four of the diagnoses were proved bacteriologically by culture or animal inoculation. The average age of the 26 student nurses who attended these two patients was 20 years, while that of the 44 graduates was 26 years.

Later it was found that these two were not the only undiagnosed tuberculous patients on that general surgical ward. During most of June and July of 1938, it is now known that there were on a general surgical ward five open cases of tuberculosis, all being treated for other conditions and in ignorance of the complicating tuberculosis. The other three patients are of equal interest. One was diagnosed, on an x-ray from an outside laboratory before admission, as pulmonary abscess. The properly diagnosed abscess was drained but the first postoperative x-ray showed a tuberculous cavity in the opposite lung. Two sputum examinations on admission were negative, but three weeks later three examinations were all positive for tubercle bacilli. The second patient was admitted in extremis on a diagnosis of advanced bilateral bronchiectasis, properly substantiated on a previous admission two years earlier. The first x-ray on this admission showed tuberculous cavities in the upper lobes in addition to the lower lobe bronchiectasis, and the first sputum examined confirmed the diagnosis of tuberculosis. This patient lived in an oxygen tent and required eighteen tracheal catheterizations before her death a month later. Those nurses and others administering to her inside the oxygen tent were unaware of the tuberculosis.

The fifth case known to be on that ward during the same weeks presents a wholly different problem in the control of tuberculosis in a general hospital. He was admitted in December, 1937, with a diagnosis of intestinal obstruction. He also had a well-healed fibrous minimal tuberculous lesion of the lung shown on the x-ray, and the sputum culture was negative. It was thought it was perfectly safe to proceed with the indicated abdominal surgery. There were a series of operations, and each one was followed by some pulmonary complication, such as postoperative atelectasis on the side of the minimal lesion. The intestinal obstruction was never entirely corrected, and there was the additional factor of inadequate food intake. It is not just clear when in the course of his hospitalization this minimal lesion became reactivated, but by August, 1938, it was far advanced and the sputum was positive.

SUMMARY AND CONCLUSIONS

There appears to be more tuberculosis among our student nurses than among the same aged girl

students in the college of literature and arts, and this is true of the applicants before they enter the hospital or the college.

No evidence was found that one month's training on a tuberculosis service was the only factor or even the major factor in the production of infection and disease among student nurses.

Tuberculosis, both known and unknown, is treated in other wards of the hospital. Serial examination of 26 student nurses contacting two unknown cases of tuberculosis discovered four who later developed tuberculosis. Two of these had had a month's tuberculosis service. Of 44 graduate nurses in contact with these two cases no effect could be traced to the contacts.

The cry has been raised, "Praise the Lord and x-ray all admissions." The attempt has been made, but cases are cited to show that no simple routine suffices to control the problem of tuberculosis in general hospitals. Constant and energetic clinical acuity is needed as well.

University Hospital.

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HEALTH IN THE AUXILIARY HOSPITAL WORKER*

MARGARET ALDRICH, M. D.
San Diego

THE city of San Diego has undergone an increase in population from 203,341, the official estimate of 1940, to 385,000, as estimated by OPA, January 1, 1943. This increase of 47.1 per cent has brought about problems in hospitalization as well as housing which have been met by:

1. Decreased number of hospital days per patient;

2. Increased bed capacity in private hospitals.

The increasing demands of the armed services for nurses and of defense plants for women war workers, the latter offering a higher rate of pay and more regular hours, plus the direct opportunity to serve one's country, has created a situation in which the hospitals are having difficulty in maintaining a minimum staff. This applies not so much to the graduate nurse as to those individuals classified variously as "ward attendants," "ward helpers," "paid aides," and "subsidiary workers."

PERSONNEL GROUPS

The need for increased personnel has been met differently in individual hospitals: by increased number of graduates, increased nursing school

enrollment, employment and training of groups of older women for attendant service, use of Red Cross nurses' aides, and employment of untrained women who are trained as they work in some particular department. Since we are interested in the health of these auxiliary workers, we ask, "What plan has been made by the hospital to assure that the worker is employable, and to protect the worker in case of accident or illness?" A survey of five hospitals in San Diego has revealed that the health examination and the health hospital service offered varies with the institution and with the type of auxiliary worker as follows:

1. *Ward Helpers.*—The hospital employing the above has increased its bed capacity from 115 to 165 beds, with an average daily census of 153.2. The increased need for help was, prior to September, 1942, taken care of, but unsatisfactorily, by the use of untrained girls, the majority of high school age. They received no physical examination prior to employment and were covered by workman's compensation insurance. The failure of the plan to produce a reliable, useful worker became apparent and was discontinued, to be replaced by one consisting of the training of groups of mature women in the fundamentals of patient care, with special training under the direction of the supervisor of the specified department.

These employees may have complete physical examinations with x-ray and laboratory work, as indicated by members of the hospital's "Health Committee," but such an examination is not compulsory. All are covered by workmen's compensation, which in this particular instance takes care only of compensation for time lost; the responsibility for the actual care in case of accident being assumed by the hospital.

Ward helpers are eligible for enrollment in the Associated Hospital Service, a voluntary plan, the members of which receive the medical services of the staff doctors and hospitalization through benefits of their insurance.

2. *Red Cross Nurses' Aides.*—These are voluntary workers trained by the Red Cross, with the cooperation of the Class A hospitals in the community in which they receive their training. Applicants are accepted only after having passed successfully a physical examination, including vaccination for smallpox and immunization for typhoid (if advised by the physician). Although the routine examination does not require an x-ray of the chest, except as indicated, all aides of the San Diego hospitals, thus far, have had chest x-rays at their own expense, arranged for by the examining physician.

On completion of the eighty-hour course, the aides are required to give 150 hours of voluntary service per year if they are to continue as active members of the Corps. This service is to be on wards exclusive of contagion, venereal disease, tuberculosis and isolation units in pediatrics. Furthermore, aides are instructed not to work if ill.

The Red Cross originally planned that each hospital should assume responsibility in case of in-

* From the Vauclain Home, San Diego.

Read before the California Tuberculosis Association, Fresno, April 8, 1943, in the symposium on "Health of Auxiliary Hospital Workers."

jury, but it was not until February of this year that the Nurses' Aide Committees were notified that members of the Association of California Hospitals must carry workmen's insurance for volunteer nurses' aides.

Since part of the original plan of the Red Cross is that nurses' aides should be used by the office of Civilian Defense, they must register with the ODC and are protected by insurance as are other members of that personnel, to cover any injury incurred during an emergency. All hospitals accepting the services of nurses' aides offer first aid for injury sustained in line of duty, but since they cannot be classified as employees they are ineligible for hospitalization insurance.

3. *Paid Aides.*—An increase in average daily census from 287 to 365 in a period of two years was noted in San Diego's largest private hospital. This increase is in part taken care of by the employment of paid aides, women who are instructed as they work, by the supervising nurses. In the event that their duties include food handling, they are required to have the routine food-handler's examination. No preemployment examination is offered or required, principally because of the rapid turnover occurring in this group.

4. *Ward Attendants.*—The San Diego County General Hospital has, with increased employment in the city and county, reduced the number of available beds by ninety-three, with an increase of average daily census from 421.99 to 471.53. This apparent discrepancy is due in part to increased daily census in the tuberculosis division of the San Diego County General Hospital, plus the admission of private patients for emergency care when beds in private hospitals were not available. Prior to December 31, 1942, the hospital was supplied with WPA workers, but since this project has been discontinued we find an increase in the number of ward attendants, employees who have had no previous training. These employees are protected by workmen's compensation and are eligible, if they so desire, for group hospitalization insurance. No preemployment examination is required, except for those working in the tuberculosis unit, all of whom are given an initial chest x-ray, followed by fluoroscopic examinations every three months. In the event that such employees are given a permanent rating, they will receive, at the request of the Civil Service Commission, a physical examination which does not include, unless indicated, an x-ray of the chest.

SUMMARY

The results of such a survey may be summarized as follows:

(a) Total increase of 150 beds in three San Diego hospitals. The need for additional personnel, supplied through the use of ward helpers, Red Cross nurses' aides, paid aides, and ward attendants.

(b) Lack of routine preemployment examination for all auxiliary workers, exclusive of nurse's aides, due primarily to rapid turnover of employees in this classification.

(c) Failure of those examinations which are available to include a specific examination for the exclusion of tuberculosis.

(d) Conflicting opinions of hospital heads as to liability for volunteer workers.

Vauclain Home.

HEALTH IN THE AUXILIARY SANATORIUM WORKER *

MARY RUST GRUETZMAN, R. N.

San Jose

THE Medical Director of the Santa Clara County Sanatorium has often said that it is safer to work in a sanatorium than in the average general hospital if you wish to avoid having tuberculosis. When the students of our hospital begin their work in the sanatorium, Doctor Lanne, in his first lecture, quotes the following from an article by Meta Bean in the *National Tuberculosis Association Bulletin* of June, 1938: "Almost two-thirds as many Wisconsin patients died from tuberculosis in general hospitals last year (1937) as in sanatoria."

It is my experience that many people, both professional and nonprofessional, hesitate to expose themselves to tuberculosis in a sanatorium. This attitude has been expressed through the heads of national organizations. The directors of the WPA were unwilling to assume the responsibility of women on their projects working with an infectious disease. Today there are about 60,000 intelligent women who have received their certificates as voluntary Red Cross auxiliary workers, and are assisting with the care of patients in both civilian and federal hospitals. This well-organized program consists of eighty hours of practice and theory. The training and qualifications of these women are of a higher standard than the average aide who is employed in our sanatoria today. Reports of their work are most favorable. The Red Cross, however, stipulates that these aides are not permitted to care for an infectious disease, because they believe these workers have not obtained sufficient knowledge to protect themselves. Since all employment is becoming increasingly difficult, and the choice of aides more limited, the objection to working with tuberculosis is more evident, and the need for aides in local institutions and Army hospitals is growing daily.

The aides employed in our institution are usually chosen from the middle-age group who often apply for work because of economic difficulties in the home or because of age discrimination in other occupations. These women who have been good housekeepers and intelligent mothers have developed an understanding of life which helps them to adapt themselves to the routine. However, at this age, as was discovered with the older men in the armed forces, the physical defects and mental adjustments cause considerable inconvenience.

* From the Santa Clara County Hospital, San Jose.

Read before the California Tuberculosis Association, Fresno, April 8, 1943, in the symposium on "Health of Auxiliary Hospital Workers."

All new employees in our institution are given a physical examination, which includes routine laboratory, x-ray and tuberculin test. We have the straight eight-hour work-day, and forty-eight hours per week.

These women are not expected to assume responsibility for giving medication or treatment to the patients. Their work consists entirely of bedside care, bathing the patient and making him comfortable, and household duties. The aides are taught a modified isolation technique for their protection, and also the sputum technique practiced by the patient, which is most important for the workers. The mask is worn when working with very ill or uncoöperative patients. Nourishment, in the form of milk, oranges and graham crackers, is served to all employees between 10 and 11 each morning. Every effort is made to safeguard the aides and keep them as happy as possible. They receive \$95 or \$100 per month, plus three meals and laundry.

Many surveys have been made showing the frequency with which students and graduate nurses become infected with tuberculosis. During my thirteen years in the sanatorium we have had 22 graduate nurses, 10 student nurses, and 12 aides as patients. None had gotten their infections through contact in a sanatorium. All infections had come through general hospitals. Of 89 students who had a twelve weeks' training with us, 17 were admitted with negative tuberculin; 7 became positive and 10 remained negative. One student who was negative throughout her sanatorium course became positive three months later, while working in the out-patient department of the general hospital.

SANTA CLARA COUNTY EXPERIENCES

Some facts concerning our own institution may be interesting. Conversations with doctors and nurses who have known the Santa Clara County Sanatorium since 1910 give the following information:

1. The institution had its beginning in the primitive tent style.

2. No student, graduate nurse or other employee is known to have had active tuberculosis through contact in this sanatorium, despite the following facts:

- (a) There were few, if any proper facilities for using good technique at that time.

- (b) The working hours were long.

- (c) The majority of patients had far-advanced tuberculosis.

- (d) The young student was sent to care for these far-advanced tuberculous patients without being taught how to protect her health. A supervising nurse states that as late as 1927, the technique of sputum disposal was most inadequate. When she first entered upon her new duties she found sputum cups left carelessly on window sills, on shelves and in odd corners.

- (e) There was no educational program for the patient, which is one of the chief essentials in health protection.

- (f) Disposal tissues were probably unknown.

If it is true, as Doctor Plunkett has told us, that "tuberculosis is the unexploded bomb which follows war," then this must be the opportune time to dispel some of the fear-complex about tuberculosis.

Santa Clara County Hospital.

TUBERCULOSIS OF THE AUXILIARY HOSPITAL WORKER*

MARY E. JORDAN, R. N.

San Leandro

MUCH publicity has recently been given to "absenteeism" from war work, emphasis being placed on trying to find a solution to this waste in manpower. This appeal has especial significance for hospitals, since we are not only engaged in a vital war work, but are having increased difficulty in adequately staffing our institutions. Obviously we should consider by every possible means the health of each employee.

AUXILIARY WORKER GROUP

My understanding of "Auxiliary Worker," as the term is used at Fairmont Hospital, applies to the nonprofessional group which assists in the care of patients in the hospital. They may be classified according to the degree of contact with tuberculosis patients: (1) Attendants and orderlies; (2) Ward porters and maids; (3) Diet maids. I am confining my remarks to the "Attendant" group. Registered nurses available for civilian hospitals continue to be reduced, and hospitals not having schools of nursing must depend more on this auxiliary group of workers to assist in the care of patients. The importance of some type of health program should be recognized to prevent the worker from losing time through illness which is the cause of most of their "absenteeism." These health measures not only prevent loss of time, but also give the medical and professional nursing staff an opportunity to teach workers their own responsibility for health, and the benefits derived from such a program. A genuine pride may be developed in not "losing time"; some employees, in fact, being reluctant to go "off duty" even when advised to do so by the physician.

TRAINED ATTENDANTS

To supplement the work of registered nurses at Fairmont, a hospital for the care of chronic and convalescent patients, it has been necessary and desirable to use trained attendants. For many years we have conducted a thirteen months' organized course of instruction for nursing attendants. Our permanent attendants have been selected from the group who have had the course. There has been developed a health program for all employees which, in the main, has been satisfactory. Since it is somewhat intensified with this group, it begins with their preacceptance physical examination,

* From the Fairmont Hospital, San Leandro.
Read before the California Tuberculosis Association, Fresno, April 8, 1943, in the symposium on "Health of Auxiliary Hospital Workers."

which is checked by Fairmont Medical staff upon entrance, and continues through the term of employment. The actual examination includes laboratory reports, fluoroscopic and x-ray of chest, and graduated doses of tuberculin.

PROCEDURE WITH EMPLOYEES

Upon employment, each employee has a chart consisting of the initial physical blank, laboratory report, doctor's order sheet, and progress sheet. These charts are kept in locked files and are available only to the supervising nurse and medical staff. An employees' clinic is held at 7:30 a. m. daily; to conserve the time of the medical staff an effort is made to adhere to this hour. Before going to the clinic, each employee must secure a request, signed by department head, asking the physician to see the employee. The findings and orders are entered on employee's chart, and the printed form is returned by employee to department head with the diagnosis and recommendation. This gives the department head the opportunity to follow up to see that the recommendations are properly carried out. The medical staff determines the employee's fitness for work. For emergencies, including accidents occurring on duty, an employee receives medical attention immediately. A record of any accident which employee might sustain, if of a minor nature, is made by employee himself. These forms, 3 x 5, are filed by each department head, and if something later develops which would be compensable, the record is available. In a large organization, much of the doctor's time may be conserved, since some minor accidents do not require medical attention. At the beginning of the calendar year, each employee is reexamined, including a fluoroscopy of chest. Each person is advised of any future medical attention indicated. Fluoroscopy or x-ray of chest may be made at any time, since there is a tuberculosis service in connection with the institution.

INSTRUCTION COURSES

Since much of the routine bedside nursing care is given by student attendants, organized classroom instruction is started the day they enter. The ethical aspect of care of their health is pointed out by explaining to them the nature of the work and that during their course definite important tasks are expected of each one. They are given several hours' instruction in personal hygiene, which includes characteristics of a healthy individual, importance of an annual physical examination, essentials of health, importance of posture and exercise, need of proper recreation, and adequate rest and food habits.

Since the student attendants have as a part of their experience an assignment on the Tuberculosis Service, it is necessary that they be given instruction in aseptic or isolation technique used at this hospital. They are not assigned to these wards, however, until they have had this instruction and have been in the school several months. They have a fluoroscopy of chest at completion of the course.

Several lectures on tuberculosis are given, one by a physician. These include: brief history of tuberculosis, types, modes of transmission, symp-

toms, curative aids, precaution, care of hemorrhage cases. Since the student attendants are required to do much of the bedside nursing, they should receive as much protection as possible, and should be required to adhere to the same technique as that used by the professional group performing the same duties: use of gowns, masks, and special emphasis in washing of the hands.

EDUCATION OF THE PATIENTS

The education of the patient is an important factor in preventing the transmission of disease and must not be overlooked. On admission, a printed folder is given the patient, and it is the responsibility of the supervisor to acquaint the patient with each item. This includes an explanation of the nature and treatment of tuberculosis, and the regulations of the hospital. In some instances the student attendants have been apprehensive about caring for tuberculous patients; that fear has been largely overcome with instruction.

Since the course for attendants was started at the Fairmont Hospital in 1929, more than 500 students have entered, and about 400 have completed the thirteen months' course, each student having had from eight to twelve weeks' duty in the tuberculosis service. Our records show that two students developed the disease during their course, and two others who continued on as permanent employees later developed it. Our small percentage of student attendants contracting the disease, however, compares favorably with studies made in schools of nursing. To quote from an article written by H. McLeod Riggins, M. D., and J. Burns Amberson, Jr., M. D., Bellevue Hospital, New York City, published in the October, 1940, issue of *The American Journal of Nursing*, entitled "The Detection and Control of Tuberculosis Among Nurses": "... based on an average of 207 student nurses in the school. This represents an average of 1.93 nurses per 100 nurses per year."

IN CONCLUSION

Factors complicating the situation are:

1. The supervising nurse, burdened with routine ward duties, has little time for proper supervision of workers.
2. The education of patients may be neglected.
3. Workers are more easily fatigued, due to war conditions; increased home responsibilities, or difficult transportation facilities.
4. Inadequate and less efficient personnel may result in technique being carelessly performed, thus increasing hazard to employee.

In view of war conditions, it is more imperative than ever that an adequate program for health conservation and protection of all employees should be developed and maintained.

Fairmont Hospital.

Marin.—The Marin County Association owns its own fluoroscope and carries on its work in cooperation with the County Health Unit. Tuberculin testing of school children is also a part of the work of the Association.

This year an effort is to be made to have culinary workers and teachers fluoroscoped.

TUBERCULIN PATCH: ITS EVALUATION IN A SURVEY OF 4,429 SAN JOSE HIGH SCHOOL STUDENTS*

LYDIA L. VERBARG, M. D.
San Jose

EVER since Vollmer and Goldberger in 1937 introduced the patch test in the form of an application to the skin of filter-paper squares soaked with pure O. T. as a test of tuberculin sensitivity, both physicians and the lay public have been extremely interested in the use of this form of tuberculin test. Vollmer and Goldberger, along with other workers, have been convinced of the reliability and maximum effectiveness of this test. Others have had more doubtful results, so that no uniformity of opinion exists as to the worth of the tuberculin patch test alone as a means of detecting the tuberculin reactor.

COMMENT ON THE LITERATURE

A brief review of the literature since 1937 shows how divided is opinion on this matter:

Vollmer and Goldberger¹ themselves in 1937 described the patch test and compared its value with that of the well-known Pirquet test. Both tests were done on a group of 209 tuberculous children. They showed conformity in 187 or 89.5 per cent, and nonconformity in 22 or 10.5 per cent, of which 15 reacted to the patch and not to the Pirquet test.

In the following year these same authors² published observations on patch tests done on 169 tuberculous children. The patch test used was one employing tuberculin approximately four times stronger than that originally used. The results were compared with the Mantoux intracutaneous test using PPD. Only one child failed to react to the patch test who, at the same time, reacted to the intracutaneous test.

In 1941, Smith, Fulkner and Cordi³ reported "the tuberculin patch test was positive in 113 (97 per cent) of 116 children who reacted to 0.1 mg. or less of O. T. by the intradermal method." Further, they state "no correlation between tuberculin sensitivity and degree of infection was apparent."

In a subsequent study of 417 unselected children, Goldberger and Vollmer⁴ reported the reliability of the patch test as compared with the Mantoux test using 0.1 mg. of old tuberculin to be practically 100 per cent; only four results showed lack of conformity and, of these, three were reactors to the patch test.

Fineman and Bair⁵ in 1940 reported on a series of 330 patients who were tested by both the Pirquet and patch tests, and also were examined with the Mantoux test whenever the Pirquet tests were negative. They found 43 of the group reacted to the Pirquet test, 54 reacted to the patch test and 17 of the nonreactors to the Pirquet test reacted to the Mantoux test. They agreed that 95 per cent of

this tested group had corresponding reactions with both the Pirquet test and the patch test, but 5 per cent of this group disagreed, of which 14 were positive patch and negative Pirquet. The patch test agreed in 97 per cent and disagreed in only 3 per cent. Their conclusions were that the patch test was more sensitive than the Pirquet and less sensitive than the Mantoux test.

In 1941, Crumm, Cookson and Broadbent,⁶ reported on 1,556 high school freshmen tested with the Vollmer and PPD tests, and x-rayed. They used one-fifth dose of second strength PPD and found a 98 per cent correlation between the patch test and the PPD.

In 1937, Wolff and Hurwitz⁷ reported on a series of 1,075 tests in which the Mantoux test using 0.1 mg. O. T. was employed at the same time the patch test was applied. The agreement was 98.2 per cent. In 1.3 per cent the patch was negative and Mantoux positive. In 0.5 per cent there was a positive patch and negative Mantoux reaction.

Peter Cohen⁸ of Santa Barbara, in an article on the tuberculin patch test, concluded that the Vollmer-Lederle patch test agreed in 99 per cent of those tested with the Mantoux test, using PPD first and second strength. The patch test gave a positive reaction in 11 individuals negative to the Mantoux test, while the Mantoux test resulted in a positive reaction in 4 persons who were negative to the patch test. He concludes that the patch test is recommended as a first step in case-finding in tuberculosis.

In contradiction to these favorable findings, there are reported in the recent literature several discrepancies:

In 1938, 613 students⁹ of the Stuyvesant High School were tested with the patch test and with PPD intermediate strength (5:10,000 or 0.1 mg. O. T.). Eighteen had a reaction to the intradermal test and not to the patch, and 4 had a reaction to the patch and not to the intradermal.

Peck and Wegman,¹⁰ in 1939, found even a larger discrepancy. They reported 28.3 per cent difference between the patch and PPD first strength and 70.5 per cent between the patch and PPD second strength. Their tests were done on a group of 880 rural school children. In numbers they found the patch test positive on 94 children, PPD first strength positive on 131 children, and PPD first and second strength positive on 319 of the children. They concluded that the patch test is useful only as a first test. In February, 1940, Hughes reported on a series of 100 tuberculin sensitive patients, whom he had tested with the patch test and with PPD first and second strength. Of 100 reactors to PPD second strength, 78 reacted to PPD first strength (all of these patch reactors) and 89 reacted to the patch test—11 more than reacted to PPD first strength. He concluded that the patch is more sensitive than PPD first strength, but less sensitive than PPD second strength.

In the study made of the comparative value of the Mantoux and patch test in the New York In-

* From the San Jose Public Schools, San Jose.
Read before the California Tuberculosis Association,
Fresno, April 7, 1943.

stitute for Education of the Blind, in 1938 and 1940, Kereszturi¹¹ found that of 379 tested, 83 reacted to both tests, while 31 reacted only to the Mantoux test and 28 reacted only to the patch test. She concluded that "The tuberculin patch test has a limited field of usefulness, and cannot replace the Mantoux test."

A very interesting report on the quantitative studies of the tuberculin reaction with reference to the patch test may be noted:

This report by Furcolow and Robinson¹² appeared in *Public Health Reports* of December 19, 1941. Their conclusions were that the reaction to the patch test varied as the tuberculin sensitivity of the individual; the more sensitive the individual, the greater his likelihood of reacting to the patch test; and that the more potent patch will detect the most reactors. In their study 1.0 per cent PPD patch was more potent than either the O. T. or the 0.1 per cent PPD patches. These last two they considered of about equal strength. They further decided that the site of application of the patch seemed to have little relation to the efficiency of the test. They say: "If it is accepted that reactors to 1/10,000 mg. or less of PPD include most of all persons whom it is desirable to detect in a routine survey, the patch test as used in these studies will detect such persons with an error of about 6 per cent 'missed' and 7 per cent 'extra' reactors."

COMMENT

A great deal of confusion seems to exist in the literature in that no uniform patch test has been used in the comparison of the patch test with known, standardized strengths of tuberculin as used in the Mantoux test. Some have used the Vollmer test as put out by Lederle, some the Wolff test as put out by Eli Lilly, and some have referred to a patch test using a PPD material for the test material in the patch.

Since no one uniform patch material has been used in the various group tests, nor material of comparable tuberculin content has been applied, it seems almost valueless to try to compare the results of one worker with those of another.

SAN JOSE PUBLIC SCHOOLS: PROCEDURES USED

In our San Jose public schools, with a student population of about 11,000, we had for several years been tuberculin-testing the high school children with PPD second strength only. There were several reasons for the feeling at that time that only one test should be used rather than using the two tests of the two strengths of PPD when indicated. The physician-time available was limited, children often refused a second intradermal test because of fear of the "needle," and the problem of a third visit by the doctor to test the absentees who had already had a negative PPD first strength became a burden. However, when three years ago we had, out of a group of 789 children tested, 12 youngsters with marked reactions to the PPD second strength, reactions which included systemic reactions of malaise and fever, axillary lymph node

swelling, large local area of redness, and induration and blistering, and red streaks up the lymph channels of the arm, we decided that some sort of first test had become necessary. In 1940, in testing the children of the junior high schools and one of the senior high schools, we applied simultaneously homemade patch tests and the intradermal test, using PPD second strength. The patch test material was that supplied by Eli Lilly and Company for the Wolff percutaneous test. Two patches of hypoallergic adhesive tape, about 1½ inches square, were prepared for each child. On one patch was applied a small drop of the test material. On the other patch was applied a small drop of the control material. The skin of the under surface of each arm was wiped with ether and the patch with test material placed on the left arm, that with control material on the right arm. The PPD second strength 0.1 c.c. was placed intracutaneously on the flexor surface of the left forearm, after wiping the skin with alcohol.

The children were all supplied with written instructions advising them that it was important that the adhesive patches stay on a full 48 hours, that they were not to go swimming, nor to take a shower, nor to allow the patches to get wet, and that if the patches became loose, to return to the nurse who would refasten the patch. At the end of the 48 hours, the intradermal tests were read and the adhesive patches were removed. In this way, we had some control over knowing how many patches apparently stayed on the full two days. The patch tests were read in 96 hours.

The results of these tests were as follows: Of 789 students tested, 111 or 14.2 per cent reacted to both the intradermal and the patch test. Thirty or 3.8 per cent had negative patch tests, though they reacted to the intradermal test, while only 2 or 0.25 per cent reacted to the patch test and not the intradermal test. At the Technical High School, of 66 tested only 9 or 13.8 per cent reacted to both tests, while 10 or 15.4 per cent reacted to the intradermal test only, and none reacted to the patch test only. These tests were carried out under most optimum conditions for group testing in that we felt we did have the coöperation of the students who took the test, and that they conscientiously tried to keep the patches on for the full 48 hours. We were exceedingly careful, too, in reading these tests and in trying to evaluate the reactions without prejudice, by reading the patch test first before glancing at the forearm at the site of the intradermal test.

From our results of that one year's experiment we learned several lessons. We learned that homemade patch tests take too much time to prepare when a large group of children are to be tested. We learned that a number of our objectors to the tuberculin test were no longer objectors if the patch test were used in place of the intradermal test, and we learned that children of high school and junior high school age can and will coöperate in keeping patch tests on the proper length of time if they understand the importance of the request. Before each tuberculin testing season, each grade of stu-

dents to be tested are assembled for a talk by one of the school physicians, or by one of the physicians doing chest work in our city. At these talks, we stress, along with the importance of the tuberculin test and the reason for having every child tested, the various ways of doing the tuberculin test. At this point we explain that a patch test will be used as a first test, and stress the importance of the child assuming his responsibility in carrying out this test properly. At the time of the test, each child is handed a sheet of paper on which has been mimeographed the following: "Your adhesive patch should stay on for 48 hours (2 days). Then remove it yourself and throw it away. If it loosens before it should come off, fasten it on with another piece of adhesive tape. Do not wash or rub it off in the showers. Come back to this office in four days to have the doctor see your arm. Do not go in swimming until the patch is to come off."

Then, of course, from our first small experiment we found that we ourselves could not be satisfied in using the patch test as the only means of detecting our tuberculin reactors, but that it was a very satisfactory means of eliminating a large group of reactors painlessly, and in eliminating, we hoped, all those who would react with undesirable local and systemic reactions to the intradermal test. We have never had systemic reactions to the patch test. We have had no violent reactors to the PPD second strength in those negative to the patch test. Those of you who work with children who have parents not always of the understanding type know how much this can mean.

TABLE 1—Statistics for Different Years

	No. Tested Patch	%	PPD	%	Total	%
1940	789	83	10.5	30	113	14.3
1941	Jr. High 1,048	87	8.3	77	164	15.6
	Sr. High 283	12	4.2	26	38	13.4
1942	Jr. High 783	56	7.2	35	91	11.6
First Test	1,057	31	2.9	48	79	7.5
Retest	469	5	1.1	15	20	4.3
Totals All Years, All Groups	4,429	274	6.2	231	505	11.4

FINANCIAL COSTS

Before undertaking to establish the patch test as a routine test, now that we knew it had really desirable features, we met up with the one big factor in its disfavor—that of increased cost. PPD material costs approximately \$2.50 for 100 tests given, plus the cost of the tuberculin luers, needles, and alcohol lamp if the flaming method of sterilizing the needle is used. The prepared patch tests, of which the Lederle-Vollmer seemed to be the only one available at the time, cost six cents a patch in lots of less than one thousand, and four cents a patch in lots of one thousand or more. If less than one thousand tests are done, the patch tests then cost about twice that of the intradermal test. We

decided in favor of the patch test in spite of this added expense, because of all the other desirable features of the test.

OTHER STATISTICS

So the next year (1941), the patch test was done routinely on all not previously tested and to be tested this year. In the junior high schools, a total of 1,048 children were tested. Of these, 87 or 8.3 per cent reacted to the patch test and 77 or 7.3 per cent of the nonpatch test reactors reacted to the PPD second strength intradermal test. This was a total of 165 or 15.6 per cent reactors in this group. In the senior high schools, the students were divided into two groups—those who had never before been tested and those who had been previously tested, but were not previous reactors. Of the first test group, we had 283 tested this year. Twelve or 4.2 per cent of these reacted to the patch test, and 26 or 9.2 per cent of the nonreactors to the patch test reacted to the second strength PPD intradermal test. This yielded a total of 38 or 13.4 per cent reactors in this group. We tested the 1,066 previous negative reactors with the second strength PPD intradermal only, that year, so that we cannot give patch figures for that group; but, as a matter of comparison and interest, we will mention that 56 or 5.3 per cent of this group were reactors to the PPD second strength.

We have no statistics as to the length of time that had elapsed between this test and the previous tests. The time interval, however, was at least one year in all cases.

TABLE 2.—Other Statistics

	Total Positive Number	Posi- tive %	Posi- tive No.	Patch %	Pos. Patch No.	but Failure %
1940 Using Wolff Percuta- neous Patch Test Material	113	100	83	73.4	30	26.6
1941 Using Lederle- Vollmer Prepared Patches	202	100	99	49	103	51
1942 Using Lederle- Vollmer Prepared Patches	190	100	92	48.4	98	51.6
Total 1941 and 1942 based on Lederle- Vollmer Prepared Patches	392	100	191	48.7	201	51.3

This past year of 1942, there were tested 783 junior high school students of whom 56 or 7.2 per cent reacted to the patch test, and 35 or 4.5 per cent of the nonreactors to the patch test reacted to PPD second strength intradermal test, giving a total of 91 or 11.6 per cent reactors in this group. In the senior high schools a total of 1,057 students were tested for the first time, of which 31 or 2.9 per cent reacted to the patch test and 48 or 4.6 per cent re-

actors to the patch test reacted to PPD second strength intradermal, a total of 79 or 7.5 per cent reactors in this group. Among those students who had previously had a tuberculin test but had not reacted, 469 were tested. Of these, 5 or 1.1 per cent reacted to the patch test, and 15 or 13.2 per cent nonreactors to the patch test reacted to PPD second strength intradermal, a total of 20 or 4.3 per cent reactors in this group. Again we know only that this group had had previous tests some time one year or longer previously.

If we consider all reactors as 100 per cent, and consider by percentage the fraction not discovered by the patch test but discovered by the PPD second strength intradermal test, or patch test failures, we have a comparison as indicated in Table 2.

IN CONCLUSION

We have separated the results of the Wolff percutaneous patch tests from those of the Vollmer test, not for the purpose of comparing the two tests, but simply because different materials were used. Our conclusions are that the patch test, as a means of finding tuberculin reactors among school children, is a highly desirable form of "first test," since it eliminates the use of one of two intradermal tests—in themselves disadvantageous because of the fear of the child of the "needle," and because of the remote but possible chance of infection. The patch test has an added advantage in not necessitating physician-time in its application, since it can easily be applied by the nurse or by any responsible person. However, because of the 25 to 50 per cent failure of the patch test to pick out reactors to tuberculin, it can be used only as a "first test" and should never be relied upon wholly as a means of finding the tuberculin reacting individual. It is to be urged that widespread effort should be given to instructing the medical profession against using only the patch test as the means of finding the tuberculin reactor.

408 Almaden Avenue.

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PATCH TEST: ITS EVALUATION *

GORDON A. DIDDY, M. D.

San Jose

IN the N. T. A. *Bulletin* of March, 1940, Dr. Hermann Vollmer stated: "Case finding means the discovery of persons with tuberculous lesions not yet arrested, rather than finding of positive reactors to tuberculin." I would reword this statement by saying: "Case finding means the discovery of persons with unknown tuberculous lesions regardless of status (active, quiescent or arrested); that the most fruitful method of discovering active cases or spreaders of disease is by tuberculin-testing our school children and completing the family follow-up on all contacts to reactors."

As you can judge from Doctor Verbarg's discussion of the literature, there are many conflicting reports regarding the efficiency of the patch test versus the Mantoux test. Early reports were more enthusiastic about the patch test than are more recent reports. Early use of the patch test was in cases of clinical or known active tuberculosis. In such cases the test was 99+ per cent as reliable as the O. T. or PPD intracutaneous tests. Three years ago we tested our patients in the Santa Clara County Sanatorium with both patch test and 1:10,000 O. T., and found the conformity of the two to be 98.8 per cent. There were 129 persons who were tested.

It has since been generally shown that the patch test is not as efficient as the Mantoux in persons with a low sensitivity to tuberculin. Most recent reports have concluded that the patch is as efficient as PPD first strength, and is a satisfactory screening first test; but all negatives should be retested with PPD second strength. This is the conclusion reached from the study of the two tests in the San Jose schools.

It seems to me that Doctors Vollmer and Goldberger,¹ two of the most ardent supporters of patch-testing, have delegated the patch test to its proper place when they state: "It seems that the Mantoux with 0.1 mg. O. T. or less, or with first strength solution of PPD can be replaced by the tuberculin patch test. A routine is suggested for tuberculin testing, the tuberculin patch test being proposed as the first test."

There are some who are advocating routine fluoroscopy or fluorography of all school children without tuberculin testing. This type of program is better than nothing, but it is quite inadequate when you consider that fluoroscopy or even x-ray exam-

* Read before the California Tuberculosis Association, Fresno, April 7, 1943.

ination in school children will reveal on the average from .2 to 1 per cent positive chests, while tuberculin testing will reveal an average of from 10 to 25 per cent reactors, thus giving a much larger field for case finding or search for spreaders of disease. There is no doubt but that routine fluoroscopy, fluorography, or x-ray have their place in case finding among adults, especially in our armed service, industry and the general hospital clinics. There can also be no doubt but that the most adequate case-finding program in our schools depends upon screening the reactors, x-raying some and making a complete follow-up of the families to locate the spreaders.

In Santa Clara County, from May, 1940, to May, 1942, 533 x-rays were taken on contacts to reactors in school surveys. Among this group 32 active or suspicious cases were found. Of these only two persons or .3 per cent were in the age group under 18; 6.4 per cent were 18 or over. The discovery of these 32 cases represents the fruit of our school survey and family follow-up.

Santa Clara County Hospital.

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COMMUNITY EXPERIENCE *

ROBERT S. QUINN, M. D.

Santa Rosa

THE war has not confronted us with the tremendous case-finding problems created by the influx of persons into communities in which there are large war industries.

Rather, it is our problem to continue intensifying the program of tuberculosis control among our somewhat stable population.

Sonoma County is a comparatively rural community with a population of 70,000 in the 1940 census. It is probable there has been an increase of five thousand since the onset of the war. The northern portion of the county is mainly agricultural. Here we are confronted with a transient population in the fruit-picking season. The southern part of the county is confined largely to dairying and the poultry industry. In this area we find a rather stable population.

SONOMA COUNTY ENVIRONMENT

There are six incorporated communities in the county. Santa Rosa, in which the Sanatorium is located, is near the center of the county, and is surrounded by the other communities at a distance of from seven to twenty miles. It is this central location of Santa Rosa upon which our entire program is based.

We have another asset in what we are pleased to call a "unified" Health Department. By that

I mean that the medical and health set-up are under the direction of one person who is Director of Health of this unified system, and who is also our acting health officer for the duration. By having this unified system we are able to coordinate our case-finding programs in the acute hospital and its out-patient clinics; the Health Department and its various clinics with the tuberculosis hospital and its case-finding projects. In the present set-up we have two assistant health officers, one of whom is in charge of venereal disease control throughout the county, and the other is in charge of the entire tuberculosis program. Our five public health nurses work in the various clinics, under the direction of the three health officers. Consequently, they have first-hand information of the persons attending the clinics, and therefore receive complete instructions on the procedure to follow regarding the care and follow-up of any given patient.

RÔLE OF SONOMA TUBERCULOSIS ASSOCIATION

Our Tuberculosis Association is dovetailed into the program very closely, and it is consulted or directed, as the case may be, regarding all problems in tuberculosis control that arise throughout the county.

Originally, all of our work was done through a biweekly diagnostic and follow-up clinic held at the Sanatorium. Discharged sanatorium patients, contacts, and known arrested cases of tuberculosis were followed in these clinics. It was necessary for patients or children with positive skin tests and their families in all parts of the county to go to the clinics in Santa Rosa. But war made it necessary for us to alter this situation. Consequently, last summer the Tuberculosis Association provided us with a portable fluoroscope. Clinics are still continued at the Sanatorium for the follow-up of our out-patients and for those persons in the Santa Rosa area. We have added to this schedule a fluoroscopic clinic one night each month in the major communities. These clinics have only recently been established; they are entirely voluntary and are arranged by the executive secretary of the Tuberculosis Association. A skin-testing program is continued, not because of the number of cases of tuberculosis found, but rather because the opportunity is maintained to get literature and our public health nurses into many homes. We also skin-test all prenatal cases, as well as all children admitted to our pediatric wards.

We are cooperating closely with the Medical Corps of the induction center of the United States Army. Information is reported regarding possible cases of tuberculosis in any inductee from our county. These persons are promptly contacted by our health nurses and brought into our clinics. Through this method we have seen several persons with evidence of arrested disease. These we continue to follow in our clinics. From this source we have found three cases of active pulmonary tuberculosis.

Following the recent fluoroscopic survey at the Basalt Rock Company in Napa County, we were given forty-one names of workers residing in our county; twenty-six of these had reference to their

* From Oak Knoll Sanatorium, Santa Rosa.

Synopsis of a paper read before the California Trudeau Society and the California Tuberculosis Association, Fresno, April 7, 1943, in symposium on "War-Time Tuberculosis Case Finding."

lungs. From this list we have hospitalized two cases of active disease.

Since September, 1942, we have fluoroscoped 650 high school seniors. Fifteen x-rays were ordered. One case of active tuberculosis was hospitalized and two cases of suspected tuberculosis are now under close observation. We have fluoroscoped 550 adults. Ten x-rays were ordered. One case of active tuberculosis was hospitalized and two cases of suspected tuberculosis are under close observation. The statistics given do not include the 3,000 fluoroscopies done in the Sanatorium clinics. I believe that the persons seen with our portable unit would not have responded had it been necessary for them to come to Santa Rosa. This year we have done 2,502 skin tests on children in the kindergarten, first, fourth, seventh, and ninth grades, and all new students. These do not include any who had positive skin tests in previous years. Out of this group we found 207 positive reactors, all of whom, with as many of their contacts as we could induce to come to the clinics, were fluoroscoped.

RECENT ADMISSIONS TO OAK KNOLL SANATORIUM

Nearly all of our recent admissions to the Sanatorium are men. This is probably due to the fact that when the men, as heads of families, are receiving large wages they are able to provide private care for their dependents. If, on the other hand, the men develop tuberculosis, their income ceases immediately and they are forced to enter the county institution.

At the present time the majority of cases of active tuberculosis are being found from one of the following three sources: (1) Those admitted to the acute hospital and diagnosed after having been admitted for some other complaint. (2) Those persons who voluntarily present themselves at our clinics for examination. (3) Those cases that are picked up by our doctors in private practice. Most of the doctors in our county are now skin-testing and fluoroscoping the patients coming into their offices.

WORK AMONG CIVILIANS

Our immediate problem is how to reach the small groups of employees found in the dairies, chicken ranches, and other minor industries. We plan to purchase a trailer in which we can set up our fluoroscope in a dark room, have some small dressing cubicles, and a desk for a secretary. This trailer could be driven to any one of these plants at any time and the entire personnel examined. This would be done only after the proper groundwork had been laid by the Tuberculosis Association. We plan to go with our fluoroscope into the larger industries as soon as permission can be obtained.

Up to the present we have not been able to satisfactorily solve the problem of the defense workers living in our county and working elsewhere. These persons are scattered throughout every town and many are living in trailer camps. Over and above that, they work very irregular hours. All of this results in a poor response to any voluntary plan for fluoroscoping these persons. I would like to

suggest that perhaps the best way for these persons to be surveyed would be in the large industries in their respective counties, following the lead of the Basalt Rock Company. The entire plant personnel could be fluoroscoped. If the results were given officials in the home county of the employees, all contacts and suspicious persons could be followed. There is one loophole in this scheme. Several persons, when told to see their private physician following the Basalt survey, did not appear. When attempts were made to contact them they had already left their jobs and moved out of the county. Probably these persons previously knew they had tuberculosis and, since jobs are plentiful, merely moved to another community in order that their condition might not be suspected. This would occur in a very small percentage of cases.

Finally, there is the question of our transient population who work in the fruit industry for three or four months each year. We are at a loss to know how to properly solve this problem with them.

IN CONCLUSION

The battle against tuberculosis in Sonoma County was started in earnest on January 1, 1938, with the establishment of a full-time health department. At that time the death rate was given as 72 per 100,000. At the end of the fiscal year, 1942, however, our death rate was computed to be 33.7 per 100,000.

Sonoma County Hospital.

THE CYSTIC LUNG*

LOUIS J. RUSCHIN, M.D.
San Leandro

THERE is no unanimity of opinion regarding the etiologic factor in certain pulmonary cystic structures. This is due to the fact that more than one factor may operate in several instances of pulmonary cystic structures.

An etiologic classification of pulmonary cystic cavernous structures is submitted, but only those disorders about which there is no unanimity of opinion will be discussed, namely, true congenital pulmonary cysts, emphysema, and acute localized emphysematous bullae.

TRUE CONGENITAL CYSTIC LUNG

The greatest variance of opinion exists concerning the occurrence and frequency of congenital cystic lung. Pierce and Dirkse¹ considered true congenital cysts in adults to be rare, and believed that the assumption of the congenital nature was too often founded upon insufficient evidence—due to inadequate antecedent history, and incomplete evaluation of respiratory diseases by the physician.

PATHOGENESIS

Heuter,² in 1914, believed that pulmonary cysts developed as a result of stenosis of bronchial

* From the Fairmont Hospital, San Leandro.

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branches, and he sponsored the term "congenital bronchiectasis" as von Grawitz³ had in 1880. S. Smith,⁴ in 1925, postulated the theory of an embryonic defect in the development of a bronchus. Mueller,⁵ in a critical review of the pathogenetic theories prior to 1928, was of the opinion that a bronchiolar bud becomes arrested in its growth before it attains the stage of a hollow tube, and that, at some subsequent date, the terminal part begins to grow and forms a closed sac into which fluid is secreted by the lining epithelial cells.

Simpkins⁶ stated that the bronchi develop as small ramifications of entodermal tissue which becomes canalized directly. Crosswell and King,⁷ and Harris,⁸ believed that an unknown process interferes with this canalization at some point proximal to the termination of that ramification, with the resultant occlusion at that point. Beyond this point canalization continues, and an isolated canalized segment is formed. The mucous membrane of this segment assumes a normal function, and a cyst is formed. The rate of prenatal growth and the size of the cyst at birth depend on the amount of functioning bronchial mucosa entrapped and the capsular strength of the cyst.

Anspach and Wolman⁹ believed that the cysts begin as fluid-containing cavities, either single or multiple. If bronchial communication does not occur, the cysts remain fluid-filled. If communication does occur, air will enter the cavity and the degree of expansion will depend upon the character of the communication and the capsular strength of the cyst. Jackson¹⁰ described types of bronchial obstruction represented in mechanics by: (1) stop valve; (2) check valve; and (3) by-pass valve. Autopsy records of Nelson¹¹ and of Jacobs¹² demonstrated the check-valve type in expansile pulmonary cysts, and the autopsy reports of R. T. Miller¹³ and of Hennell¹⁴ revealed the by-pass type of valve in nonexpansile pulmonary cysts.

PATHOLOGY

The diagnostic confirmation of the condition depends on the histopathologic examination of the cystic structures in the lung. The occurrence of pulmonary cysts in the stillborn and in the newborn, as proved by autopsy, is probably the strongest evidence in favor of the congenital nature of the disorder.¹⁵ Infection may destroy the typical histologic picture.

The number and distribution of the cysts vary a great deal. Schenck,¹⁶ in a survey of 374 cases, found 141 solitary cyst cases, and 233 multiple cyst cases. The survey revealed 21 per cent bilateral cases, 42 per cent right lung involvement, and 37 per cent left lung involvement.

A connection between the cyst and the bronchial tree may be demonstrated. Diamond and Durham¹⁷ noted instances in which lipiodol failed to enter the cystic structures, and suggested that minute openings, or none at all, explain that phenomenon. Noncommunicating cysts are complete in themselves, as demonstrated at autopsy.^{5, 18} Stewart, Kennedy, and James,¹⁹ by careful reconstruction of cysts in the wax model, demon-

TABLE 1.—Classification of Pulmonary Cystic Structures

I—TRUE CONGENITAL PULMONARY CYSTS.		
Solitary	Fluid	Limited expansibility
Multiple	Air	Expansile (check valve)
	Both	Non-expansile (by-pass valve)
II—ACQUIRED CYSTIC STRUCTURES		
a—Aberant germ cells		
1—Dermoid and teratoma		
b—Parasitic		
1—Hydatid		
c—Degenerative		
1—Chronic emphysema		Blebs (interstitial)
2—Neoplasms		Bullae (vesicular)
d—Inflammatory		
1—Broncholectatic (honeycomb)		
2—Bronchiectatic		
3—Pyogenic (epithelialized abscess)		
4—Tuberculous (necrosis)		
5—Coccidioides		
e—Mixed (inflammatory, developmental, mechanical, degenerative)		
1—Acute localized emphysema		
2—Tuberculous tension cavities		
f—Developmental		
1—Pulmonary hypoplasia		
III—NON-RESPIRATORY PULMONARY CYSTIC STRUCTURES		
a—Eventrations and diaphragmatic hernia		

strated that the majority of cysts communicated with the bronchial tree, and that only a small number were true cysts.

The lining of the cysts varies from a high columnar to a cuboidal or flattened epithelium.¹⁸ In the absence of an epithelial lining, a vascular granulation tissue is found.^{18, 20} The wall of the cyst lined with epithelium usually shows structures commonly seen in the wall of the bronchi and bronchioles.²¹

The fluid cysts contain a gelatinous, limpid fluid, comparable to egg-white, free of fat, but high in albumin content.²² Fibrous strands may traverse the cysts, and give the appearance of trabeculations.^{21-a}

SYMPTOMS AND DIAGNOSIS

The clinical symptoms vary markedly, and depend largely on the number, size, and location of the cysts, the presence or absence of bronchial communication, the expansile or nonexpansile nature of the cysts, and the presence or absence of infection at the moment, or in the antecedent history. The frequency of the more common symptoms, as compended by Schenck,¹⁶ are: cough, dyspnea, expectoration, cyanosis, fever, hemoptysis, malnutrition, thoracic pain, weakness, anorexia, wheezing, vomiting, palpitation, and epigastric distress. All or part of these symptoms may be present, depending upon the factors outlined above. Also, the clinical symptoms may be nil.²³ Asthmatoïd symptoms may be prominent. Emphysema²⁴ and cor pulmonale contribute their share of the symptomatology. Spontaneous pneumothorax has been recorded in cases of congenital cystic lung.^{14, 25}

The diagnosis of congenital pulmonary cysts is not easily established with certainty in the clinical patient. The roentgenogram is usually suggestive. Lipiodol bronchograms are not invariably valuable or conclusive.¹⁷ Bronchoscopy is of little diag-

nostic value except in a negative sense. Physical findings are extremely variable and are not pathognomonic.¹⁸ The diagnosis of congenital pulmonary cysts must be made with proper appreciation of their infrequency in comparison with the acquired varieties.

TREATMENT

The treatment of the true congenital cyst is medical or surgical, depending on the nature of the case. Lung cyst emptying and closing are rare in the literature.^{8, 25} Asymptomatic fluid cysts have been recorded.²⁷ Single or multiple, noninfected, nonexpansile cysts in the asymptomatic state may be treated in an hygienic, prophylactic manner. When a multiplicity of cysts involves the lungs bilaterally, surgery usually is impossible. The prevention of the development of an emphysematous state which would further contribute to the symptomatology should be attempted. Should the involvement be unilateral, lobectomy or pneumonectomy is possible. Removal of expansile cysts *in toto* is eminently successful in selected cases.^{28, 29} Thoracentesis of balloon (expansile) cysts is indicated for the relief of acute symptoms.^{3, 26-b}

The deflation should not be accomplished in a rapid manner. Cysts of the lung which have become infected will rarely be cured without complete removal or destruction of the secreting lining of the cavity.^{15, 29} Maier and Haight³⁰ emphasized the importance of biopsy in cases thought to be chronic empyema.

EMPHYSEMA

That emphysema is a degenerative lesion of the lung is open to debate by the purist. However, it may lead to the formation of large cavernous areas which simulate cysts.

Emphysema may be defined as an overdistention or overinflation of the lung. Overdistention occurs in the inflated lungs during a forceful expiratory effort, when the escape of air is retarded by a closed glottis or bronchial stenotic process. Unequal compression in different portions of the lung allows a local overdistention. Overinflation occurs when portions of the lung are in a nonexpansile condition (fibrotic or atelectatic), and the thoracic cage enlarges to the same degree as in health. The expansile portions of the lung compensate for the nonexpansile by an increase in volume. Overinflation is favored by insufficient expiration, due to loss of lung elasticity and chest-wall elasticity, which accompanies age. The lungs are insufficiently emptied and the inspiratory effort is increased to establish the proper proportion of residual air to tidal air, and to facilitate gaseous exchange. This may progress until the mechanical state of fullest inspiration prevails.

Repeated and prolonged overdistention and overinflation of alveoli lead to destruction of capillary loops in the walls and to atrophy of the walls. Repair and restoration to a normal state are impossible. This local atrophy may progress to the formation of bullae.

W. S. Miller³¹ stated that bullae are formed by the distention of the alveoli themselves, and the

larger bullae are the result of rupture of the alveolar walls and fusion of the dilated spaces. He stated that blebs are formed by the escape of air into the interstitial tissues of the lung, and localization of air in the areolar connective tissue of the pleura.

Miller suspected that these loculated emphysematous lesions might cause annular shadows in the roentgenogram. Laurell³² pointed out the importance of localized obstructive emphysema in the production of pulmonary cavities surrounded by annular shadows (of atelectatic lung). Doub³³ reported the first American cases in which autopsy demonstrated pulmonary blebs and bullae in areas corresponding to cavernous annular shadows in the roentgenogram.

TREATMENT

The treatment of emphysema has not been entirely satisfactory. Prophylactic measures are most important when applicable. A relatively small amount of normal lung tissue suffices for the breathing needs of a healthy individual except under stress. Haldane³⁴ stated that about one-tenth of the total lung tissue will provide for the gaseous exchange needs under resting condition. Emphysema without fibrosis is encountered rarely. Most sufferers with pulmonary emphysema would survive in comparative comfort if their chest could diminish in size to conform to the diminished lung capacity occasioned by fibrosis, instead of having the remaining lung tissue undergo emphysematous change to conform to the chest capacity. Possibly surgical measures with the aid of bronchial spirometry will offer a solution to this problem. Rebreathing exercises, abdominal belts, and pneumoperitoneum have been employed to advantage in selected cases.

ACUTE LOCALIZED EMPHYSEMA

Acute respiratory tract infections are a potent cause of acute localized emphysema. Certain infections exhibit a toxic or trophic disturbance, even distant from the seat of infection, which results in a weakening of the alveolar walls and elastic tissue. Should a severe cough complicate such an infection, the increase in intrapulmonary air pressure facilitates emphysema in these weakened areas. The presence of bronchitic and bronchiolitic inflammatory states may produce a valve action which increases the bullous formation. The inflammatory residua in these bronchi and bronchioles may perpetuate the bullous state long after the acute inflammatory state has disappeared. That bronchi dilate during inspiration, and contract during expiration, has been observed and adequately substantiated. This phenomenon may allow the bronchial inflammatory residua to function as a check valve. Caffey³⁵ stated that the rapid dilatation and contraction (sometimes followed by re-expansion and recontraction) of pulmonary cystic structures in acute respiratory disorders furnish strong presumptive evidence that inflationary forces are more important than the destructive agents in their genesis. He emphasized the fact that air-fluid levels in pulmonary cavities are not

pathognomonic of lung abscess. Cheney and Garland³⁶ pointed out that serial roentgenograms of patients recovering from various inflammatory diseases of the lungs, particularly pneumonia, have disclosed an astonishingly large number of bizarre cyst-like lesions. Although most of these lesions remained unchanged, some disappeared spontaneously and some increased in size.

Zarfl,^{26-c} in 1933, applied the term *pneumatocele* to this local acute emphysema. Pierce and Dirkse,¹ in 1937, made similar observations, and applied the term *pneumatocele*. Cheney and Garland³⁶ suggested the term *pneumocoele*. The phenomenon is an expression of local acute emphysema.

The above phenomenon has long been observed in tuberculous lungs and contributes no small number of the tension cavities of tuberculous lungs. That emphysematous bullae may be mistaken on the roentgenogram for tuberculous cavities has been demonstrated at autopsy.³⁷

The symptomatology of this group of cases is identical with that discussed under congenital cysts. Many of these cystic structures disappear following the subsidence of the precipitating factors. For this reason, the diagnosis of lung abscess should be made only after due consideration of all the anatomical-etiological possibilities.

TREATMENT

Some of these cystic structures persist for months, or apparently permanently. These cases must be individualized in making therapeutic recommendations. The symptomatology, the size, the number, and the reinfection of the locale are determining factors. The main perpetuating factors may frequently reside in the draining bronchiole as a check valve. Complete patency of the bronchiole, or the obliteration of the bronchiole allows for collapse of the bulla, the first by elimination of the check valve which maintains an intrabulla pressure positive in relation to the atmospheric pressure, and the second by absorption of the entrapped air. Transpleural catheter cavernous decompression³⁸ may be of some value in selected cases after pleural fusion. Bronchoscopic therapeutic approach may prove of value in some instances.

SUMMARY

The etiologic factors and the pathogenesis of congenital cystic lung, chronic emphysematous bulla, and acute localized emphysematous bulla have been discussed. Therapeutic considerations and approaches have been suggested.

A great variety of lung abnormalities and disorders have been lumped together under the one term "cystic lung." While it undoubtedly is true that a number of cases reported are of congenital origin, recent observations seem to indicate that the number is much smaller than was formerly thought. Numerous persons born with apparently normal lungs develop pulmonary cystic cavernous structures later in life. A careful history and repeated examinations over a long period of time often suggest the pathogenesis of acquired pulmonary cavernous structures in individual patients.

In at least an equal number, however, exhaustive studies are of no avail, and the etiology remains obscure.

Fairmont Hospital.

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THE CYSTIC LUNG*

J. J. SINGER, M. D.
Los Angeles

THE paper of Doctor Ruschin covers the subject of the cystic lung from various standpoints. The different types of cysts, that is, the true congenital, the hydatid cyst, and the acquired cyst, each represent a different type and can be differentiated by a careful history, and particularly by x-ray studies.

The use of iodized oil applied into the bronchus, or directly by a puncture of the chest wall, has furnished considerable information as to the character of the cysts, and also their extent. In the ordinary film of the chest, the fine walls of the cyst are frequently not visualized, but when the films are taken tangentially, complete outlines are frequently observed.

In children, and occasionally in adults, the large balloon cysts are taken for spontaneous pneumothoraces, and the use of iodized oil in this type is particularly valuable.

Another method to determine which is a cyst, and which pneumothorax, is to insert a needle connected with a manometer; if one obtains the usual variations, a little air is introduced into the space. One can then see whether he is in the pleural space or a cyst. I have seen three cases in which iodized oil was put into the pleural space which produced a symphysis of the pleural sheets so that spontaneous pneumothorax could not develop when the cyst ruptures.

Patients may live a long time with cysts, but when they are infected it becomes a surgical problem.

In the emphysematous type, one can see the size of the cyst enlarge from month to month and from year to year. This rarely happens in the congenital type. In one case that I have observed in a man in the eighties with severe dyspnea, the diagnosis of pulmonary cyst was made, when the patient died suddenly, a small carcinoma was found at the end of the bronchus which partially blocked the bronchus and the large cyst developed. At the post-

* From the University of Southern California School of Medicine.

Discussion given before the California Trudeau Society, Fresno, April 8, 1943.

mortem the lung looked like a large balloon; a slight nick with the knife and the walls of the cyst collapsed.

The treatment of the acquired cysts of the lung is nonsurgical, and symptomatic—that is, by restricted activities and attention to the general health. The hydatid form of cyst is rare in this country, and is almost always connected with liver echinococcus.

2208 West Third Street.

LUNG FLUKES*

LT. COMDR. JOHN MILLER, M. C., U. S. N. R.
Oakland

THE lung fluke, or paragonomus Westermanni, is endemic in the South Pacific Islands. It has a complicated life cycle; but, human in section, is mostly crab or crayfish. Direct transfer of its section is possible. Differential diagnosis from other tropical diseases is necessary. There may be thoracic, abdominal, or granular symptoms.

Brown flecks in a very tenacious sputum is suggestive. The eggs are found in fresh unstained sputum. X-ray examination of the chest may well be negative.

The lung fluke infection should be suspected in any patient from the South Pacific who has chronic bronchial disease; secondly, a peculiar type of chest pain, or thrombophlebitis.

The diagnosis is essentially a laboratory procedure and depends upon finding the typical egg under the microscope.

Oak Knoll Hospital.

WHAT IS HAPPENING TO THE YOUTH OF TODAY?†

C. MORLEY SELLERY, M. D.
Los Angeles

THE paradox of youth inspired to new heights of patriotism, willingness to serve, desire to attain skills which will best serve in our war effort, and youth neglected at home, breaking away from school to work at wages which they are too inexperienced to know how to spend prudently, seeking excitement and unhindered by any mature judgment or guidance, paints an alarming picture in the paper.

The breaking down of the home life, the inadequacy of health agencies because of lowered budgets and depleted personnel requirements, the increase of juvenile delinquency, are all brought to the forefront of attention.

Youth will do its part in the war effort, says the author, but will adults do their part in keeping the good that has been in the world to help make this the kind of world the youth are struggling to build?

Chamber of Commerce Building.

* Synopsis of a paper read before the California Trudeau Society, Fresno, April 8, 1943.

The opinions and assertions contained herein are the private ones of the writer and are not to be used as official or reflecting the view of the Naval Department or the naval service at large.

† Synopsis of a paper read before the California Tuberculosis Association, Fresno, April 7, 1943.

WHAT IS HAPPENING TO THE YOUTH OF TODAY?*

C. F. FERROTT
Turlock

THE speaker made his discussion of the topic under four headings: Awareness of the interdependence of all countries of the world; suppression of social menaces; home teaching of basic moral truths; and adherence by adults to laws for spiritual growth. Youth will meet the problems presented to it by the war, said the speaker; they are patriotic, earnest and enthusiastic, but they still look to the adults for leadership. Like others discussing the subject, the speaker ends with a question: "How well are we adults doing?"

Turlock Union High School.

WHAT IS HAPPENING TO THE YOUTH OF TODAY?†

WALTER H. BROWN, M. D.
Berkeley

I FIND myself in complete agreement with the deep concern with reference to the signs of increased delinquency, inadequate provision for wholesome recreation and the apparent disintegration of family. Surely all of these are danger signals and demand action. They should result in social action.

However, in spite of all of the unavoidable tragedy of war, one can detect unmistakable signs that many youths are finding themselves with a purpose so high and holy that they are willing and eager to fight or even die for it. This has nothing to do with whether they are rich or poor, educated, or ignorant. It is the inherent soundness of the majority of youth who have grown up under our American way of life, many of whom are already proving their essential worth in every part of the globe.

It seems to me that our obligation, as adults, is the need to so live and act that we will be worthy of the sacrifices that youth is making in our behalf.

University of California.

CHILDREN IN WAR WORKERS' HOMES‡

ELIZABETH HALL
San Francisco

THE paper discusses the basic needs of children, which are the same, war or no war: good health, security and opportunity for development.

It further discusses what California is doing to meet the basic needs of children. War has made meeting this need more difficult, and, according to

* Synopsis of a paper read before the California Tuberculosis Association, Fresno, April 8, 1943.

† Copy of complete paper may be secured from the California Tuberculosis Association.

‡ From the University of California, Berkeley.

Synopsis of a paper read before the California Tuberculosis Association, Fresno, April 7, 1943.

§ Synopsis of a paper read before the California Tuberculosis Association, Fresno, April 8, 1943.

Copy of the complete paper may be secured from the California Tuberculosis Association.

statements from heads of the official agencies responsible for the children of the State, the effort has not been successful.

The subject of housing, child care centers, recreation facilities, and public health facilities are discussed, with statements of facts as shown in official reports. Figures and facts from reports of the Children's Bureau, U. S. Public Health Service, U. S. Housing Authority and others are also quoted.

Particular reference is made to the subject of day-care of preschool children.

45 Second Street.

THE TREATMENT OF SYMPTOMLESS SURVEY TUBERCULOSIS*

SIDNEY J. SHIPMAN, M.D.
San Francisco

THE members of the panel agreed that x-ray surveys of the chest are extremely valuable in finding pulmonary abnormalities, many of which are tuberculous. Further study was necessary in most cases to establish the etiology of the lesion, and if it were tuberculosis, whether or not it be active.

It was apparent that all discussants were in complete agreement to the extent that survey cases deserve individual treatment after a more or less complete clinical check-up.

It was the consensus of opinion that many would require only periodic observation by some form of x-ray examination, particularly in the presence of symptoms, while others would need sanatorium care or compression therapy.

It was agreed that asymptomatic cases were perhaps the most difficult to judge, and that the observation period in these cases might require several months. The point emphasized by each discussant was that perhaps the majority need not have their lives or their work too drastically altered, but that some modification of their mode of living might be sufficient to enable them to maintain health and well-being and make them safe members of the community.

490 Post Street.

HEALTH EDUCATION IN THE SCHOOL SYSTEM†

JOSEPH BURTON VASCHE
Modesto

UNDER ten headings, the speaker covered the theory and practice of health teaching in the schools. Under ten other headings he covered the health education activities which might be carried on coöperatively by schools and the Tuberculosis Association or other health agency.

* Synopsis of a paper read before the California Trudeau Society, Fresno, April 7, 1943. Panel Discussion: John B. Barnwell, Ann Arbor, Michigan; Philip H. Pierson, San Francisco; Howard W. Bosworth, Los Angeles; and Carl R. Howson, Los Angeles.

† Synopsis of a paper read before the California Tuberculosis Association, Fresno, April 8, 1943.

Copy of the complete paper may be secured from the California Tuberculosis Association.

These twenty points were documented, to show actual health education programs now under way, with items of the programs and how they are administered.

Stanislaus County Schools.

HEALTH EDUCATION IN INDUSTRY*

BERNICE FRANKENHEIMER
Stockton

THE speaker related how the local Tuberculosis Association had arranged for and carried on a health education project among industries. The manner of making initial contacts, with management and labor leaders, materials used, and ways of approach, were used to illustrate the theory that Tuberculosis Associations have a definite place in industrial health programs.

130 South American Street.

HEALTH EDUCATION OF THE COMMUNITY AT LARGE†

MABEL MORRISON
Ukiah

THE speaker reviewed the procedure used in educating people in Mendocino County to the need of surveys to find tuberculosis. The originating of the plan, the publicity, the materials for use in the surveys, and the results of the campaign, were outlined.

624 South State Street.

State Bureau Chief Talks on Plans and Problems.—A plan for x-raying the chests of all inmates and employees of State penal and charitable institutions was outlined by Dr. Edward J. Kupka, Director of the Bureau of Tuberculosis of the State Department of Public Health, at the recent meetings of the Tuberculosis Association secretaries held in Los Angeles and San Francisco.

"There are between 30,000 and 40,000 inmates and approximately 10,000 employees in these twenty-one institutions," Doctor Kupka said. "In one ward of an institution in which patients were x-rayed, one patient in seven was found to have tuberculosis. While this percentage probably will not hold when all patients are examined, it definitely proves that a great deal of tuberculosis exists in these institutions."

"The State tuberculosis control office has existed for more than twenty-five years, and in the early days the Department worked hard encouraging the building of sanatoria. Today extra beds are needed in only a few places in California. The Department also inaugurated case-finding and was the first organization in the State to examine apparently healthy people for tuberculosis. This function has been taken over by the local agencies, as it should be.

"The Bureau of Tuberculosis is not an operating agency," Doctor Kupka declared. "The work of health education of the public needs the services of experts in that field, and we look to the voluntary agencies to carry on this work although the State will continue to do some educational work among physicians.

* Synopsis of a paper read before the California Tuberculosis Association, Fresno, April 8, 1943.

Copy of complete paper may be secured from the California Tuberculosis Association.

† Synopsis of a paper read before the California Tuberculosis Association, Fresno, April 8, 1943.

Copy of complete paper may be secured from the California Tuberculosis Association.

TUBERCULOSIS ORGANIZATIONS IN AMERICA

The National Tuberculosis Association was organized in 1904 for the purpose of "studying tuberculosis and spreading knowledge as to its causes, treatment and prevention." The National Association is the nominal head of more than 2,000 local groups which carry on work in all forty-eight states, in Alaska, Hawaii and Puerto Rico.

Each of these associations studies the problem

in its own area and working with the medical societies, and the public health agencies, has moved toward the final eradication of tuberculosis.

The work of the tuberculosis associations in America is supported by the annual sale of Christmas Seals which, in 1942, provided more than eight million dollars. (The 1943 Christmas Seals, designed by Andre Dugo, go on sale November 22.)

* * *

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REGINALD H. SMART, M. D., Los Angeles

R. H. SUNDBERG, M. D., San Diego

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HARRY C. WARREN, M. D., Belmont

* * *

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(Clinical Section of California Tuberculosis Association)

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A Federation of Sixty-Two Local Associations

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- Los Angeles Tuberculosis and Health Association**
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Mrs. Ruth Close, Executive Secretary
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CALIFORNIA MEDICAL ASSOCIATION

This department contains official notices, reports of county society proceedings and other information having to do with the State Association and its component county societies. The copy for the department is submitted by the State Association Secretary, to whom communications for this department should be sent. Rosters of State Association officers and committees and of component county societies and affiliated organizations, are printed in the front advertising section on pages 2, 4 and 6.

CALIFORNIA MEDICAL ASSOCIATION†

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PHILIP K. GILMAN, M. D.....Council Chairman
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† For complete roster of officers, see advertising pages 2, 4, and 6.

OFFICIAL NOTICES

COUNCIL OF THE CALIFORNIA MEDICAL ASSOCIATION

Minutes of the Three Hundred and Eleventh (311th) Meeting of the Council of the California Medical Association*

The meeting was called to order in Room 210 of the Hotel Sir Francis Drake, in San Francisco, at 10:30 a. m., on Saturday, June 19, 1943.

1. Roll Call:

Councilors present: Philip K. Gilman, Chairman; Karl L. Schaupp, Lowell S. Goin, William R. Molony, Sr.; E. Vincent Askey, E. Earl Moody, Dewey R. Powell, Sam J. McClendon, Calvert L. Emmons, Harry E. Henderson, Axcil E. Anderson, R. Stanley Kneeshaw, John W. Cline Lloyd E. Kindall, Frank A. MacDonald, John W. Green, and Secretary George H. Kress.

Councilors absent: Edward B. Dewey (ill), Edwin L. Bruck (out of city), and Donald Cass (excused).

Present by invitation: L. A. Alesen, Vice-Speaker; Dwight H. Murray, Chairman, Committee on Public Policy and Legislation; Mr. John Hunton, Executive Secretary; Mr. Hartley F. Peart, Legal Counsel; Mr. George Smith, Associate; Mr. Ben Read, Secretary, California Public Health League; Representatives of the San Diego County Medical Society: (W. H. Geistweit, Jr.; Edward A. Blonidin, and Bryant R. Simpson); Representatives of the Solano County Medical Society: (Carl A. Snoddy, F. Burton Jones, and Howard R. Madeley); Representatives of the Federal Public Housing Authority: (Mr. Langdon W. Post, Mr. William Reidy, and Mrs. Marion Beers Howden); and Representatives of California Physicians' Service: T. Henshaw Kelly, and Alson R. Kilgore, members of Board of Trustees, and A. E. Larsen, Secretary).

2. Minutes:

Minutes of the following meetings of the Council were submitted and approved:

(a) Los Angeles Council Meeting (306th) held on February 28, 1943. (Abstract printed in CALIFORNIA AND WESTERN MEDICINE, April, 1943, on pages 236-240.)

(b) Los Angeles Council Meetings (307th, 308th, 309th, and 310th), held on May 1, May 2, May 3, and May 3, respectively. (Printed in CALIFORNIA AND WESTERN MEDICINE, June, 1943, on pages 366-369.)

3. Membership:

(a) A report of membership as of June 17, 1943, was submitted and placed on file.

(b) On motion duly made and seconded, it was voted that 136 members whose membership had automatically lapsed on April 1, because of nonpayment of dues, but whose dues had been paid since the last Council meeting, held on May 1, 1943, be reinstated.

(c) Upon motion duly made and seconded, Retired Membership was granted to the following member whose application had been received in duly accredited form from his respective county society:

Walter B. Coffey, San Francisco County.

4. Financial:

(a) A report of finances as of June 17, 1943, was submitted and placed on file.

* Reports referred to in minutes are on file in the headquarters office of the Association. Minutes as here printed have been abstracted.

(b) Report was made that the notes covering amounts due the California Medical Association from California Physicians' Service had been brought into proper legal form as per House of Delegates resolution (Reference No. 31 on page 357 of June CALIFORNIA AND WESTERN MEDICINE, in minutes of House of Delegates.)*

(c) On motion duly made and seconded, it was voted that annual dues for the calendar year 1944 be the same as in 1943, namely, twenty dollars.

(d) Physicians' Benevolence Fund:

It was voted that the amendment passed by the House of Delegates on May 3, 1943, allocating \$1.00 per active member as per House of Delegates Resolution (Reference No. 39), became effective on May 3, 1943, and that such allocation should be made for the current calendar year.

It was agreed that the allocation of \$1.00 per active member so made should only apply to those active members whose dues were received through their respective county societies, and should not apply to active members in military service whose dues are covered by allotment from the General Funds of the Association.

Because of the passage of the new amendment, it was voted that the allotment of \$5,000 for benevolence work which had been placed in the budget for 1944, should be eliminated therefrom.

It was agreed that the moneys to be transferred to the Physicians' Benevolence Fund through allocation of \$1.00 per active member per year should be placed to the credit of the Physicians' Benevolence Committee in its operating account. Other funds received through bequest or donation, etc., will be kept in a separate savings account, under the supervision of the nonprofit corporation, "Trustees of the California Medical Association."

5. California Industrial Accident Commission—Fee Schedule:

(a) Report was made by Mr. Peart for the special Committee on Fee Table. Mr. Peart referred to the meetings with the members of the California Industrial Accident Commission and outlined the proposals that had been made.

Attention was called to the fact that the Oregon State Medical Society had an experience somewhat similar to that of California, and was able to convince the Oregon State Industrial Accident Commission of the desirability of authorizing an increase in the fee schedules for medical and surgical services; and that the new schedule of the Oregon State Industrial Accident Commission became effective on June 1, 1943.

(b) Reference was made to a letter dated June 9, 1943, sent by Council Chairman Philip K. Gilman to the Honorable Paul Scharrenberg, Chairman of the State Industrial Accident Commission, in which some of the issues as they appear to the California Medical Association, were indicated. After discussion, the resolution which appears below, in reference to a letter dated May 21, 1943, received from the Honorable Paul Scharrenberg, Chairman of the California State Industrial Accident Commission, was adopted. The Council felt it was important that members of the California Medical Association be acquainted with the matters under consideration.

The following resolution was adopted:

WHEREAS, The Council of the California Medical Association has carefully considered the letter dated May 21, 1943, from Hon. Paul Scharrenberg, Chairman of the Industrial Accident Commission, to the Chairman of the Council and the reply of the Chairman to said letter dated June 9, 1943; and

WHEREAS, In his said letter Chairman Scharrenberg states: "If you could, as chairman of the Council of the California Medical Association, undertake some fundamental and long-range program whereby uniform rates of

medical fees are demanded and adhered to by the medical profession, with the necessary machinery for disciplinary action for infraction, etc., I feel that progress could be made and our objections may be largely overcome"; now, therefore, be it

Resolved, That in sending to each member of the California Medical Association a copy of the fee schedule applied for by the California Medical Association, together with a copy of the existing fee schedule in effect since June 1, 1920, there be enclosed an agreement to be signed by the member pledging his observance and compliance with any fee schedule approved by the Commission and requesting him to sign and forward such agreement to the California Medical Association Secretary's office, and that in such communication the attention of each member be directed to the Principles of Ethics relating to industrial practice, and that the Association, through the Council, has represented to the Industrial Accident Commission that any violations of these Principles of Ethics will render the member subject to disciplinary action; and be it further

Resolved, That the Council approves everything contained in the letter of June 9, 1943, from the Chairman to Hon. Paul Scharrenberg and hereby makes that letter the action of the Council.

(c) After further consideration of the subject, it was voted that a resolution of appreciation be extended to the Honorable Anthony J. Caminetti concerning investigation he has instituted concerning practices relating to Industrial Compensation Insurance. Resolution in regard to the same follows:

WHEREAS, The California Medical Association has always maintained, and again through its Council meeting at San Francisco, June 19, 1943, affirms; that the primary purpose of the Workmen's Compensation Insurance and Safety Act is the restoration of the injured worker to normal health as nearly and as quickly as possible; that this primary purpose can only be accomplished by furnishing such worker adequate medical care; and that fee splitting and the rebating of fees inevitably lower the standards of such medical service. Such practices have been condemned for many years by this Association; now, therefore, be it

Resolved, That the Council of the California Medical Association commends the action of Hon. Anthony J. Caminetti, Insurance Commissioner of California, in making an investigation of compensation insurance and practices pertaining to medical service that have grown up in connection with it, and particularly the alleged exaction by some insurance carriers of rebates from physicians attending injured workmen, and the discounting of physicians' bills for services rendered by them to injured workmen; and be it further

Resolved, That this Association furnish the Insurance Commissioner any assistance within its power in such investigation.

Because the fee schedule of the California Industrial Accident Commission applies not only to members of the California Medical Association, but to all licensed physicians, it was voted that an appropriate letter should be sent to nonmember physicians, calling attention to the issues involved.

It was voted that the Special Committee on Industrial Fee Table consisting of Council Chairman Gilman, Legal Counsel Peart, and Executive Secretary Hunton, be continued.

6. Indemnity Insurance Practices:

The subject of indemnities for surgical services as given by certain commercial insurance carriers was discussed. It was emphasized that it is important that physicians should not accept checks from such commercial carriers when the so-called indemnity refunds are for sums less than the standard fees of the community.

It was agreed that a letter should be sent to the county societies, calling attention to these matters.

7. Proposed Federal Children's Bureau Plan of Obstetrical Care for Wives and Infants of Enlisted Men:

Report was made by Councilor Karl L. Schaupp, the chairman of the special committee to consider the proposed plan of obstetrical care of wives and infants of enlisted men, and the procedures to be adopted thereunder in the State of California. This new work would be possible through a grant-in-aid that would be made to the Califor-

* Reference Nos. refer to the reference numbers printed in italics which appear in the June issue of CALIFORNIA AND WESTERN MEDICINE, in minutes of California Medical Association House of Delegates.

nia State Board of Public Health, acting as an agent for the Federal Children's Bureau (through the federal appropriation of \$1,200,000 for the United States, included in the First Deficiency Appropriation Act of 1943, and approved May 18, 1943).

Doctor Schaupp outlined the information in regard to the same, much of which is covered in the editorial comments which appeared on pages 313 to 317 of the June, 1943, issue of CALIFORNIA AND WESTERN MEDICINE.

After full discussion, upon motion duly made and seconded, a special committee consisting of Doctors Goin, Kneeshaw, and Schaupp, was appointed to draft a resolution incorporating the views of the Council. The resolution as adopted and approved by the Council follows:

Resolution on Obstetrical Care of Wives and Infants of Enlisted Men as Adopted by the California Medical Association Council on June 19-20, 1943.

1. The Council of the California Medical Association is, when the House of Delegates is not in session, the governing body of the Association.

2. The California Medical Association Council at its 311th meeting held in San Francisco on June 19-20, 1943, having considered the problem herein discussed, adopts the following:

A. The Council approves, in principle, the objectives for obstetrical care for the wives and the infants of enlisted men as provided in the Federal First Deficiency Appropriation Act of 1943, approved on March 18, 1943.

B. The Council disapproves the method of procedure proposed, wherein the physicians who perform the obstetrical services would be obliged to accept certain fixed fees.

The Council holds:

(a) The patient should be permitted to choose her own physician, because in the long run that procedure will make for a quality of medical service more acceptable to the parties immediately involved, namely, the patient and the physician.

(b) The quality of medical care in different States and their communities depends upon many factors, not the least of which are the actual costs of giving the services involved.

(c) Throughout the Nation, war industry is carried on a cost-plus basis. Members of the medical profession likewise earn their livings through their industry. Physicians, nevertheless, have given hundreds of thousands of dollars to the Government in gratuitous work in Selective Service and other agencies. The maintenance of high standards of medical service is a principle to which physicians are definitely committed.

The establishment of a mandatory fee table under primary control of a nonmedical bureau is a menace to the quality of present- and future-day medical service.

Physicians object to the institution of mandatory and inelastic fees that do not take into proper consideration all factors involved; therefore be it

Resolved, That it is the opinion of the California Medical Association that the California State Board of Public Health, when it receives the federal grant-in-aid for this service to wives and infants of enlisted men, should establish an allocation of money to be paid to the patient, who shall use it in making her arrangements with the physician of her choice.

8. Committee on Public Policy and Legislation:

(a) The Chairman of the California Medical Association Committee on Public Policy and Legislation, Dr. Dwight H. Murray of Napa, gave a summary of the legislation enacted by the Fifty-fifth California Legislature which convened in January of 1943, and adjourned on May 5, 1943.

The report on the various bills appeared in the June issue of CALIFORNIA AND WESTERN MEDICINE, on pages 372-374.

Mr. Ben Read, Secretary of the California Public Health League, spoke of some of the experiences, with special relation to bills of particular interest to medical practice and public health.

(b) The value of a more active policy in connection with national legislation related to medical practice and public health measures was also considered. It was felt that it would redound to the best interests of the public health if the American Medical Association would devise a plan whereby constituent state medical associations would

be kept in better touch with pertinent federal legislation, so that the State Medical Associations would in turn be able to communicate with their component county societies and their members, and enlist more active coöperation for measures designed to maintain high standards of medical practice.

9. California Physicians' Service:

A discussion of medical service problems with special reference to the activities of California Physicians' Service in the Federal Housing Projects coming under the jurisdiction of the Federal Housing Authority became the subject of discussion at the postluncheon meeting of Saturday afternoon.

For initial reference concerning the matters that were discussed and the issues submitted to the Council, see minutes of the House of Delegates which appear in the June, 1943, issue of CALIFORNIA AND WESTERN MEDICINE (Reference No. 15 on page 351, and Reference No. 49 on page 363).

The discussion was participated in by representatives of the San Diego County Medical Society (Doctors W. H. Geistweit, Jr., Secretary; Edward A. Blondin, and Bryant R. Simpson); the Solano County Medical Society (Doctors Carl A. Snoddy, F. Burton Jones, and Howard R. Madeley); the Federal Housing Authority (Mr. Langdon W. Post, Regional Director; Mr. William Reidy, and Mrs. Marion Beers Howden); and California Physicians' Service (Doctors A. E. Larsen, Secretary; T. Henshaw Kelly and Alson R. Kilgore, members of the Board of Directors).

The presentation of issues involved was made by the representatives in the above sequences:

San Diego County.—For San Diego County, Doctor Geistweit outlined some of the conditions in San Diego Housing Projects which led to differences of opinion and misunderstanding between members of the San Diego County Medical Society and California Physicians' Service.

It was stated the housing projects had become restricted zones and that it was impossible for physicians other than the employees of California Physicians' Service to secure residence or office facilities in the housing project areas; also that about 55 per cent of the persons living in the Linda Vista Project were not covered by California Physicians' Service. He stated that it was, therefore, difficult, particularly in connection with this work, for physicians in private practice outside the area to carry on their work advantageously. Reference was made to the screening process which had been instituted in the San Diego projects whereby patients with serious illnesses would be referred to other physicians in San Diego, and the difficulties in connection therewith were pointed out.

The above and other points were brought out in the discussion by Doctors Simpson and Blondin. Doctor Blondin stated that information received by the San Diego County Medical Society through a questionnaire sent to state and county societies in other sections of the United States where housing projects exist, indicates that no such sharp limitation of who and what physicians shall practice in housing project areas is in operation in other portions of the country.

The incomes of residents in housing projects were also mentioned, one family having a monthly income of \$700 and yet coming under the California Physicians' Service coverage.

The distance of the housing projects from the city, with the dim-outs in operation, made it difficult for doctors in practice in San Diego to answer emergency calls, especially at night, because there had been no opportunity to become acquainted with the street and house locations.

The manner in which the residents of housing projects had signed up for coverage was also discussed.

Queries and comments were put by members of the Council in efforts to secure more detailed information and to clarify some of the issues which had been brought out. It was emphasized that in all these matters, it was necessary to have an approach that would take into proper consideration, State, rather than purely local problem situations.

Solano County.—For the Solano County Medical Society, Dr. Carl A. Snoddy made the initial presentation, informing the Council that since the onset of the war, the population of Vallejo has trebled and was still increasing. Doctor Snoddy recalled the meeting with members of the California Medical Association Executive Committee at which a policy was approved whereby California Physicians' Service should maintain contact relations with the Solano County Medical Society in any changes of plan, or in the institution of any new housing project work.

Doctor Madeley of Vallejo took up the discussion and presented a report in which were outlined some of the problems which the Solano County Medical Society felt should be properly solved. (This report is on file in the California Medical Association office.)

Federal Housing Authority.—For the Federal Housing Authority, Mr. Langdon W. Post, Regional Director, outlined the efforts of that organization to provide adequate medical service for persons who are given residence facilities in housing project areas. Mr. Post stated that no compulsion is used concerning medical service, but that the medical service items are mentioned just as are rent for shelter, and utilities.

Some of the problems in connection with the Carquinez Heights Project were referred to. The importance of adequate medical care as part of the joint war effort was emphasized. Mention was made of the new projects that are impending, which may come into existence almost over night.

The menace of epidemics which might seriously interfere with the war effort was brought out. Mr. Post complimented California Physicians' Service on the excellent work it had carried on and said he doubted whether any plan could be brought forward that would not make for some inconvenience and hurt to certain groups. He stated that as far as the District Housing Authority is concerned, the administrators are obliged to provide adequate medical care for persons in their respective areas. Mr. Post said the problems which have arisen in California in connection with housing projects are of greater scope and more difficult of solution than had come into being in any other State in the Union. He acknowledged that at times and in some places the paper plans were not working out as efficiently as could be desired.

In answer to a query by Doctor Cline on what would happen if California Physicians' Service moved out of the San Diego project, Mr. Post replied that he would be obliged to turn to the United States Public Health Service for aid. Councilor Kneeshaw asked what assurance he had that Public Health Service would be able to give much better service, and he replied that he did not know whether it could.

Councilor McClendon called attention to the fact that there seemed to be much fret over the 50 per cent of residents who are covered by California Physicians' Service, but seemingly little attention was being given to the 50 per cent of housing area residents who did not come under such coverage.

Councilor Goin put the question as to why it should not be permissible for private practitioners to also practice in the housing project areas. Councilor McClendon called attention to the fact that the ruling laid down in California is seemingly limited to this State, namely, that only certain physicians shall be permitted to practice in particular housing project areas.

Mr. William Reidy of the Federal Housing Authority supplemented the remarks by Mr. Post, calling attention

again to the rapid increase of population in some of these units. It is possible that some of the misunderstandings arose because of improper presentation at the very outset by the sales representatives, when applicants for houses in the projects applied for residence allocations.

Councilor Green called attention to the fact that representatives of California Physicians' Service had failed to maintain contacts with the county societies before engaging in modifications or new work, and that such action was not in accord with the initial agreements between the county societies and California Physicians' Service.

The question of cost of adequate medical coverage for a family came up, and statements were made that it was hoped that the charges therefor could be increased to cover actual cost of the service.

Mr. Reidy stated that the rent schedule could not be raised, but that the medical service schedule could be changed and the applicants for housing so informed.

Motion was made and unanimously carried that the representatives of the Federal Housing Authority be thanked for the presentation they had made concerning the problems confronting that agency.

California Physicians' Service.—Through its representatives, California Physicians' Service presented some of the difficulties that had been encountered in the effort to provide adequate medical coverage for residents of housing areas.

Reference was made to the early experiences of California Physicians' Service in attempting to provide "full coverage," and later, the "two visit deductible coverage." It was felt that some of the unrest existing today among physicians has resulted from the fact that the unit values for professional services, authorized four years ago, have not been brought up to the 100 per cent level.

California Physicians' Service, in its experience with the Farm Security Administration, has found that the Government is willing to act in proper cooperation, and on the basis of that governmental experience, California Physicians' Service agreed to take up the housing project work in the Linda Vista Project in San Diego County, and in the Vallejo Project in Solano County.

Doctor Kelly stated that on June 18, the Trustees of California Physicians' Service had put in an entire day in discussion of these various problems. Also, that the experiments which were being carried on in California were now being watched by interested groups throughout the United States.

Dr. Alton R. Kilgore followed Doctor Kelly, outlining other problems which had confronted the Trustees of California Physicians' Service. He called attention to impending changes in medical practice in general, as evidenced by Federal and other legislation and endeavors. He felt that it was important that the medical profession should give full cooperation to California Physicians' Service.

Council Chairman Gilman read a letter from Dr. Harold A. Fletcher, the Chairman of the California Committee on Procurement and Assignment, emphasizing the value of coordination in all this work.

Dr. A. E. Larsen, secretary of the California Physicians' Service, also spoke, saying that full coordination was a very difficult problem in these proceedings. He outlined the administrative structure of California Physicians' Service and pointed out how, in its endeavors to carry on its work in housing projects, some of the experiments necessarily had to be on the basis of trial and error. California Physicians' Service was making efforts to improve public relations and to create better understanding with both the Housing Authority and with the tenants.

He spoke also of the difficulties of working with committees whose members often failed to gather when it was necessary to discuss and endeavor to solve problems.

General discussion followed, after which the Council recessed to take up further consideration of the above and related problems on the next day, Sunday, June 20.

10. Survey of California Medical Service and Hospitalization Organizations—Report of Mr. John R. Mannix, Detroit:

The survey of California medical service and hospitalization organizations referred to under Item 10 of the Council minutes of the 306th meeting, held on February 28, 1943, (*CALIFORNIA AND WESTERN MEDICINE*, April, 1943, page 239)—came up for consideration when a report by Mr. John R. Mannix, Director of the Michigan Hospital Service, Detroit, Michigan, was submitted. His report, "Voluntary Health Plans in California," was based on a survey made by him during the months of April and May, 1943, during which period he was in residence in California (upon invitation and contract with the California Medical Association).

Copies of the survey report having previously been sent to members of the Council, its members proceeded to consider the same.

After discussion, it was voted that the first 19½ pages, down to the subsection on "Recommendations" be received and placed on file.

Succeeding paragraphs were then considered in turn, the Council making the following changes:

Page 20.—Under item 1, the words "and the American Medical Association" were added, making that particular sentence read:

"It should be developed in accordance with the approval standards adopted by the American Hospital Association and the American Medical Association."

Page 21.—Under item 2, the words "by their duly constituted representatives" and "in active practice" were inserted, making that particular sentence read:

"It is recommended that coordination at the trustee level be obtained by election to the medical plan board by participating hospitals in the statewide plan of a number of trustees to be later agreed upon, and further, that there be elected by participating physicians, by their duly constituted representatives in California Physicians' Service, an equivalent number of physicians in active practice, to serve on the hospital plan board."

Again on the same page, the words "who shall be physicians in active practice" were inserted, making that particular sentence read:

"It is proposed that there be an executive committee made up of an equal number of representatives from California Physicians' Service, who shall be physicians in active practice, and the Hospital Service Plan Board; this executive committee to be responsible for the operation of both corporations."

Page 22.—On this page, the word "executives" was added, making that sentence read:

"This executive should be an individual who would have the confidence of the medical profession and hospital executives, and who has an understanding and sympathetic interest in private practice of medicine and the voluntary hospital system."

At the bottom of page 22, and carrying over to page 23, deletions were made in the last sentence, commencing "This arrangement would seem to meet all the objections," etc., and ending with the words "prepayment plans," and the succeeding sentence, ending with the words "on a prepayment basis" in the first paragraph on page 23.

The portions deleted follow:

"This arrangement would seem to meet all the objections which radiologists, pathologists and anaesthesiologists have raised, regarding the inclusion of services of these specialists in prepayment plans. These groups believe that such services should be offered by the medical plan rather than by the hospital plan. On the other hand, the public in many cases wishes to avail themselves of the services of these three specialists on a prepayment basis even though they may not in the first instance be ready to provide for other medical services on a prepayment basis."

On page 23, additional words were inserted as follows: "certain medical services," and "service," "limited," and "contract," making the last sentence of first paragraph on page 23, read as follows:

"This would permit the offering to the public of a contract for hospital service, as well as an additional contract for certain medical services."

and again:

"5. It is proposed that there should be a detailed actuarial study of the medical service plan and the limited surgical contract with the thought of offering services as comprehensive as possible at a subscriber's rate which will be attractive and which at the same time will assure the profession an adequate fee for its services."

In the discussion which followed, Council Chairman Gilman read a letter, dated June 12, from Anthony J. J. Rourke, M.D., requesting copies of the decision of the Council in relation to the report by Mr. Mannix, in order that the same might be presented at a meeting of the Association of California Hospitals Board to be held on June 26. It was so agreed.

After further discussion, on motion duly made and seconded, it was voted that the report of Mr. Mannix as submitted and as amended, be adopted as a whole.

It was agreed that copies of the Mannix Survey Report as amended should be sent to all interested groups and parties for their confidential consideration.

The liaison committee, consisting of Councilors Cline, MacDonald, and Dewey, was continued.

General discussion followed and was participated in by Doctors Cline, MacDonald, Schaupp, and Kindall, and other Councilors. Doctor Kindall spoke with particular reference to the problems which had arisen in Alameda County, pointing out some of the procedures which had caused confusion and opposition in Alameda County.

Doctor MacDonald spoke of somewhat similar conditions which had come to the front in Sacramento County.

It was agreed that it was extremely important that action should be taken at the earliest possible moment to prevent further misunderstandings by the medical service and hospitalization groups.

Other matters pertaining to personnel of the various medical service and hospitalization boards also received informal comment.

The policy which seems to exist in California whereby residence and office facilities are denied private physicians who are not officially connected with California Physicians' Service, again became the subject of discussion, and it was agreed that an effort should be made to secure the consent of the local Housing Authorities in the respective districts, so that a more liberal policy might be instituted, through which physicians in private practice would be in position to render medical care for those residents of housing project areas who are not covered by California Physicians' Service contracts.

It was also agreed that efforts should be made to bring about a better understanding between California Physicians' Service and the San Diego and Solano County Medical Societies.

On motion duly made and seconded, it was voted that the Council request California Physicians' Service and the three hospitalization groups in California (Hospital Service of California, Hospital Service of Southern California, and Intercoast Hospitalization Insurance Association), to refrain from carrying on active selling campaigns for any kind of contracts, until a merger or decision thereon as outlined in the Mannix report is brought into being. This, however, not to interfere with contracts previously made; and particularly not to interfere with agreements previously made with governmental authorities.

It was agreed that over the name of the medical service-hospitalization liaison committee, of which Doctor Cline is chairman, a letter should be written to the Solano and San

Diego County Medical Societies informing them of the various actions taken and to express the hope that a betterment of the issues under discussion may be brought into being, satisfactory to all concerned.

11. California Medical Association House of Delegates—Instructions Therefrom:

(A) Committee on Scientific Work:

(a) *Annual Session in 1944.*—The Committee on Scientific Work through its chairman, Doctor Kress, presented a supplementary report. Upon motion duly made and seconded, it was voted that the California Medical Association hold an annual meeting in 1944 along the same lines as 1943, namely, a two-day session to be held on some Saturday and Sunday, provided war exigencies do not interfere. The time and place of such annual meeting, if held, to be left for future consideration by the Council.

(b) It was agreed that it was desirable to bring California physicians who are acting as health officers in closer affiliation with their fellow practitioners in private practice. The Committee on Scientific Work was given permission to provide a *separate public health program* in case an annual session is held in 1944. (Reference Nos. 26-44, June CALIFORNIA AND WESTERN MEDICINE, on page 356.)

(c) Approval was also given to the suggestion of Reference Committee No. 1 (Reference No. 27) to feature a "round-table discussion on practical points and of methods and procedures found useful by men in general practice."

(B) Public Relations Publicity Committee:

In accordance with Reference No. 32 (page 357) in the minutes of the House of Delegates, the Chairman of the Council was authorized to appoint a subcommittee of its own members to be called the Public Relations Publicity Committee, said committee to cooperate and advise with the Secretary of the Association and the Executive Secretary for the purpose of carrying on a consistent campaign in behalf of the best interests of the medical profession and general public health."

The committee appointed for this purpose consists of: R. Stanley Kneeshaw, San Jose, Chairman; E. Vincent Askey, Los Angeles, and Edwin L. Bruck, San Francisco.

(C) Annual Conference of County Society Secretaries and State Association Officers and Committeemen:

In reference to House of Delegates Item (Reference No. 33, on page 358), it was agreed that as per the recommendation made by the House of Delegates concerning meetings of County Society Secretaries and Officers and Committeemen of the California Medical Association, such meetings should be "subject to the exigencies of war." Decision concerning such meeting or meetings will be made by the Council at a subsequent meeting.

(D) Councilor Districts:

The House of Delegates Item (Reference No. 36 on page 359) concerning areas involved in Councilor Districts was considered and it was agreed that in as much as the House of Delegates had made no change, the arrangement as at present existing should be maintained. (Constitution, Article IV, Section 9.)

(E) Physicians' Benevolence Committee:

(a) Concerning the recommendations included in the resolution submitted to the House of Delegates (Reference No. 6 on page 349), it was agreed that the Physicians' Benevolence Committee must decide amounts to be paid to individual physicians who may be deemed worthy of aid. It was felt, however, that the needs of members or of former members of the California Medical Association should receive prior consideration to the needs of physicians who have never been members of the California Medical Association. Further, in cases where such conditions arise, a courteous letter of inquiry should be sent by the Physicians' Benevolence Committee to the State Association and

to the County Medical Society of which nonmember physicians in need might formerly have been members, calling attention to the nonmember physicians' circumstances.

(b) Regarding the Physicians' Benevolence Fund, as provided through the California Medical Association Constitutional amendment (Article XI, Section 1), adopted by the House of Delegates on May 3, 1943 (Reference No. 39 on page 359), it was agreed concerning the \$1.00 allocation received each year from active members whose dues had been forwarded by component county societies, that the current or operating expense of the Physicians' Benevolence Committee should be limited to the money so received which would be held in a separate account of the California Medical Association; it being provided that all other moneys received through bequest, donation, or otherwise, should be maintained in a separate savings account under the jurisdiction of the "Trustees of the California Medical Association."

(F) Postwar Plans of Medical Service and Social Security:

In accordance with the item in the minutes of the House of Delegates (Reference No. 42, on page 360), the Council authorized the Council Chairman to appoint a special committee to study postwar problems and bring in a report thereon to the Council for further consideration.

The committee appointed for this purpose consists of: Dewey R. Powell, Stockton, Chairman; Donald Cass, Los Angeles; and John W. Green, Vallejo.

(G) Revision of the American Medical Association Principles of Medical Ethics in Relation to Postwar Problems:

The House of Delegates action (Reference No. 45, on page 362), calling for consideration by the Council of the desirability of making certain changes in the Code of Ethics of the American Medical Association was discussed. It was agreed that the Council Chairman should appoint a committee to make a study and bring in a report to the Council, so that it may be determined whether recommendations should be made thereon to the California Medical Association delegates who will attend the meeting of the House of Delegates of the American Medical Association in 1944.

The committee appointed for this purpose consists of: Lowell S. Goin, Los Angeles, Chairman; John W. Cline, San Francisco; and William R. Molony, Sr., Los Angeles.

(H) Appointment of Special Committees of Senior Physicians, etc.:

The needs of medical personnel for the Army and Navy, with special relation to the quota still to be filled by the State of California, was discussed. Reference was made to the letter of June 7, received from the Directing Board of the Federal Procurement and Assignment Service in which it was stated that it would be necessary as of May 15, 1943, for California to supply 535 additional physicians for the armed forces in order to fill its quota in relation to other States in the Union.

The Council voted to recommend to component county societies which have not filled their respective quotas, the advisability of appointing committees of senior physicians to cooperate with their local Committees on War Participation, in the manner outlined in the resolution considered by the California Medical Association House of Delegates (Reference Nos. 11 and 46, on pages 350 and 362).

(I) Concerning Postgraduate Courses for Military Members:

The subject was considered by the House of Delegates (Reference No. 4 and No. 40, on pages 349 and 359). As suggested by the House of Delegates, it was agreed that the Council Chairman should appoint a committee as outlined in Reference No. 4 to make a study and report thereon to the Council.

The committee appointed for this purpose consists of: Calvert L. Emmons, Ontario, Chairman; Harry E. Henderson, Santa Barbara; Lloyd E. Kindall, Oakland; and ex officio (from the California Medical Association Post-graduate Committee, its chairman and secretary) R. E. Clough, San Bernardino, and George H. Kress, San Francisco.

12. Miscellaneous and New Business:

(a) Conference with State Bar Association—Delinquency Problems:

A letter, dated June 8, from Thomas Parran, Surgeon General of the United States Public Health Service, requested the coöperation of the California Medical Association with the California State Bar Association concerning prostitution and delinquency problems. It was agreed that a letter should be sent to the President of the California Bar Association, Frank B. Belcher, Esq., Security Building, Los Angeles, California, offering such coöperation.

(b) Loss of Equipment at Del Monte:

Attention was called to the fact that the Association had in storage at the Hotel Del Monte equipment to the value of \$800 to \$1,000, and that after the United States Navy took possession of the hotel, the property seemingly disappeared. The legal counsel was instructed to send proper communications to the Hotel Del Monte authorities and to the United States Navy, to make the loss a matter of record and to inquire on what could be done in the premises.

(c) Approval of Resolutions of Pacific States Medical Executives' Conference:

Report was made by Captain Gilman, who presided at the meeting of the Pacific States Medical Executives' Conference, concerning actions taken by that organization at its meeting held in Portland on May 29 and 30.

It was agreed that the resolutions adopted by the organization receive the approval of the California Medical Association. (For resolutions, see June issue of CALIFORNIA AND WESTERN MEDICINE, pages 375-376.)

(d) Interim Committee Appointments:

Interim appointments made by the Council Chairman to various committees were approved.

(e) Osteopathic Practice Act:

Councilor Henry S. Rogers, who was one of the California Medical Association delegates at the meeting of the House of Delegates of the American Medical Association, held in Chicago on June 7-10, 1943, reported that he had been present at a meeting of the American Medical Association Council on Medical Education, and that he had taken occasion to inform those committeemen concerning the correspondence that had gone forward a year or so ago to the American Medical Association Council on Medical Education and the Association of American Medical Colleges, concerning the Osteopathic Practice Act in California, and related matters. Doctor Rogers stated that the members of the American Medical Association Council on Medical Education were in a receptive mood to learn further of the effort made last year by the California Medical Association concerning steps proposed by some of the osteopathic group, whereby the Osteopathic Practice Act initiative would be submitted to the electorate, thus permitting such members of the osteopathic group to consider completion of their healing arts education, in line with the curriculum standards set by the two national medical organizations.

It was agreed that a letter should be written to the deans of the four medical schools in California suggesting that the matter be reopened through correspondence with the Council on Medical Education of the American Medical Association, and the Association of American Medical Colleges.

(f) Report on the Meeting of the American Medical Association House of Delegates:

Report was made by Councilors William R. Molony and Lowell S. Goin on the meeting of the American Medical Association House of Delegates held in Chicago June 7-10, 1943.

Report of this meeting appears in the *Journal of the American Medical Association*, June 19, 1943, page 517, and June 26, 1943, page 612.

(g) Salary of Executive Secretary:

In executive session of the Council, it was voted that the salary of Executive Secretary Hunton be increased by \$700 per year, making his salary \$7,600 per year.

(h) Agricultural Workers Health and Medical Association:

Report was made by Doctor Schaupp concerning the letters sent to congressmen urging appropriation for the work of the Agricultural Workers Health and Medical Association. It was voted that the Council go on record as opposing contracts by county hospitals located in California, with federal or other agencies, through which care would be provided for nonindigent persons, except in cases of compelling urgency.

(i) Conference Committee—Hospitals, Nurse and Medical Societies:

It was agreed that a special committee be appointed to confer with the Association of California Hospitals, the State Nurses' Association and other interested groups, concerning ways and means through which a betterment of controversial issues might be brought about.

13. Date of Next Meeting:

It was agreed that the next meeting should be held in San Francisco on Sunday, August 22, but if a two-day meeting should become necessary, it would be held on Saturday and Sunday, August 21-22.

14. Adjournment:

Upon motion duly made and seconded, it was voted to adjourn.

PHILIP K. GILMAN, *Chairman*.
GEORGE H. KRESS, *Secretary*.

OFFICIAL NOTICE

Proposed Amendment to Article IV, Section 1 (c) of the Constitution of the California Medical Association. (See June, 1943, "California and Western Medicine," Reference No. 5, on page 349.)

Section 1 (c) of Article IV of the Constitution of the California Medical Association is hereby amended by adding, immediately after the first paragraph contained in said Section 1 (c) a full new paragraph:

If an application for retired membership is submitted by a component medical society within the calendar year immediately succeeding the last calendar year in which the recommended applicant was an active member in good standing, the Council shall have authority to act on such application as though it had been submitted in the preceding calendar year during which active membership existed.

So that the said Section 1 (c) of Article IV will, therefore, read:

(c) Retired Members

Qualifications.—Retired members of the California Medical Association shall be elected by the Council on the recommendation of any component county society from those active members thereof who cease the practice of medicine for reasons satisfactory to such component county society and the Council, and who shall have been active members of the Association for ten years or more prior thereto.

If an application for retired membership is submitted by a component medical society within the calendar year immediately succeeding the last calendar year in which the recommended applicant was an active member in good standing, the Council shall have authority to act on such application as though it had been submitted in the preceding calendar year during which active membership existed.

CALIFORNIA COMMITTEE ON PARTICIPATION OF THE MEDICAL PROFESSION IN THE WAR EFFORT

On Procurement of Adequate Medical Personnel for the Armed Forces*

(EDITOR'S NOTE—Copy of a Directive (Form 258 of June 5, 1943) from Federal War Manpower Commission. Directive implies an important change of procedure regarding voluntary enlistments, to apply to all physicians under age of 45. The Directing Board of the Procurement and Assignment Service is under the chairmanship of Dr. Frank H. Lahey of Boston.)

* * *

(COPY)

June 7, 1943.

To: State Chairman for Physicians (States with quotas).
FROM: Directing Board, Procurement and Assignment Service.

SUBJECT: Change in Recruitment Procedures.

Although State Chairmen have declared considerable numbers of physicians available for military duty, many of these men have not seen fit to apply for commissions. Recruitment methods which have been used in the past have not produced the number of physicians who can be spared from the civilian population for service as medical officers nor have they produced the number urgently needed by the armed forces.

In view of these facts, a new recruitment procedure has been agreed upon by the Procurement and Assignment Service and the Army and Navy which will supplement the methods now being used by this Service. Under this new procedure, representatives of the Officer Procurement Service and the Office of Naval Officer Procurement in your State will interview men, whom you have declared available, in order to persuade them to apply for commissions.

* * *

You are, therefore, requested to list by name and address all physicians under 45 years of age in the following three categories who are available or who can be declared available:

* * *

(1) Physicians who have indicated choice of military service by sending you Form No. 174, "Preference for Service," but who have failed to apply for commission.

(Copies of these lists are to be turned over immediately to _____ (Name)

_____, Officer Procurement Service _____ (Address) _____ (Name)

or to _____

_____, District Office of Naval Officer Procurement, _____ (Address)

_____. A third copy is to be sent to the Central Office of Procurement and Assignment Service.)

* * *

(2) Physicians who have been sent letters of invitation but who have never indicated choice of service.

(As soon as this list has been prepared, you are requested _____ (Name)

to confer with _____, Officer Procurement Service and _____, District Office of Naval Officer Procurement for the purpose of distributing names to both the Army and Navy on a fair basis. The ratio of relative strength of the Army and Navy which is 8:3 will probably be the basis for distributing names.)

* For editorial comment see page 2.

(3) Physicians who will be declared available by you for the remainder of the year and to whom letters of invitation have not yet been sent.

(This entire list should be sent immediately to the Central Office so that letters of invitation may be mailed out. After you have sent this list to the Central Office, you should call in the Army and Navy representatives in order to arrange for a distribution of names according to the 8:3 ratio.)

* * *

Clearances must be given to the Army and Navy for men in all three groups described above. Presumably you have already supplied availability clearances on group (1) to the Army and Navy, but it may be necessary to fill out new availability clearances. You have already forwarded professional clearance forms on group (1).

For group (2) you should have in your files availability and professional clearance forms received from us at the time the invitations were issued. Nevertheless, a supply of clearance forms is being sent you for this purpose.

For group (3) the Central Office will prepare clearance forms, forwarding them to you for each name you submit at the time invitations are issued.

* * *

At regular intervals, the Army and the Navy will return to you the names of men who have not accepted commissions. You will submit these names to the State Director of Selective Service, asking that consideration be given to draft reclassification. A copy of your letter to the State Director of Selective Service, together with the names of men whose reclassification you have requested, should be sent to the Central Office so that the information may be transmitted to National Headquarters, Selective Service System.

* * *

In addition to the three categories of physicians described above, you will soon receive lists of interns and residents who, according to their hospital superintendents, will be available and who have not yet been commissioned. You should check these lists carefully in order to make a final determination of the status of each individual. After this has been done, you should call another conference with the procurement representatives of the Army and the Navy in order to distribute the names fairly on the basis of the 8:3 strength ratio. You should also prepare clearance forms on each individual whose name is turned over to the Army or the Navy.

Within a short time, you will receive another memorandum regarding the classification of all remaining physicians in your State according to the class numbers of the Procurement and Assignment Service Classification Card. If you have not already done so, your classification cards should be brought up to date as soon as possible.

From: Directing Board, Procurement and Assignment Service.

* * *

States With Quotas [Unfilled] Reference Paragraph 3, Form 258

Number of physicians to be made available according to Procurement and Assignment estimate as of May 15, 1943:

CALIFORNIA	535	Nebraska	61
Colorado	11	Nevada	5
Connecticut	206	New Hampshire	27
District of Columbia	55	New Jersey	144
Illinois	420	New York	1500
Iowa	44	Ohio	300
Maryland	76	Oregon	0
Massachusetts	300	Pennsylvania	640
Minnesota	205	Rhode Island	60
Missouri	353	Vermont	2
		Wisconsin, 30	

**On Change in Recruitment Procedures.
Re: Civilian Practice.**

OFFICE FOR EMERGENCY MANAGEMENT
WAR MANPOWER COMMISSION

Washington 25, D. C., June 5, 1943.

Procurement and Assignment Service for
Physicians, Dentists and Veterinarians

To: *State Chairmen for Physicians* (States without
quotas).

FROM: *Directing Board, Procurement and Assignment
Service.*

SUBJECT: *Change in Recruitment Procedures.*

Although your State has not been assigned a quota for
this year, you have informed the Central Office that
physicians are not essential in the localities where they are
now practicing.

*In your State, there are localities where physicians are
needed.* Will you communicate with the physicians whom
you have declared to be available and request them to re-
locate in areas of medical need. If, after two weeks, these
physicians do not comply with your request, you should send
a list of their names and addresses to the Central Office.
The Central Office will prepare letters asking them to apply
for commissions.

As soon as you receive clearance forms on these physi-
cians, lists of their names should be given to the Officer
Procurement Service and the District Office of Naval Of-
ficer Procurement. You should call in the Army representa-
tive of the Officer Procurement Service,
....., and the Navy representative of the District
Office of Naval Officer Procurement,
as soon as your lists are ready so that they may both begin
contacting these available physicians immediately. The lists
will include those who have indicated preference, as well
as those who have not returned their cards. In case of
preference, they can be referred to the proper branch, and
those who have not returned their cards can be turned over
to both branches, distributing them on the ratio of 8:3
(Army to Navy). Copies of these lists should also be sent
to the Central Office. In addition, you should send to the
Central Office the names of physicians who have relocated
as a result of your efforts. You should begin this work at
once, making sure that all efforts to relocate available physi-
cians have failed before their names are turned over to
the representatives of the armed forces.

DIRECTING BOARD,

Procurement and Assignment Service.

(COPY)

States Without Quotas [Quotas Filled]

Alabama	Montana
Arizona	New Mexico
Arkansas	North Carolina
Delaware	North Dakota
Florida	Oklahoma
Georgia	South Carolina
Idaho	South Dakota
Indiana	Tennessee
Kansas	Texas
Kentucky	Utah
Louisiana	Virginia
Maine	Washington
Michigan	West Virginia
Mississippi	Wyoming

"We Americans can not successfully maintain even our
domestic freedom here, unless we help to restore freedom
in every land where it has been threatened or wiped out.
That is not an academic question: it is a question of life
and death for all that humanity holds dear. And as such,
it is an immediate summons to action."—Lewis Mumford.

FEDERAL CHILDREN'S BUREAU PLAN*

RE: MATERNITY AND PEDIATRIC CARE FOR
WIVES AND INFANTS OF ENLISTED MEN

ITEM I

**Letter to Los Angeles Subcommittee Concerning Cali-
fornia Fee Schedules:**

(COPY)

CALIFORNIA MEDICAL ASSOCIATION

San Francisco, May 24, 1943.

Attention:

Donald G. Tollefson, M. D., Chairman
Los Angeles Subcommittee
Los Angeles, California

Dear Doctor Tollefson:

On Saturday last, with Chairman of the California Med-
ical Association Committee, Dr. Karl L. Schaupp, I at-
tended a meeting in the office of the California State Board
of Public Health. Dr. Jessica Bierman of the State Board
of Health, in Los Angeles will take up the discussion with
your subcommittee tomorrow (Tuesday, May 25).

Dr. Edward Daily, of the Federal Children's Bureau,
when he was with the Northern Committee made the state-
ment that they had worked out the prospective scale of
prices on the basis of some 300 fee tables supplied by the
American Medical Association, and in no instance did a
single fee table list a charge of more than \$35 for a simple
confinement.

I told them I could not understand that, because I knew
the fee tables in Los Angeles were higher. . . .

In the meantime, for your information, I have found fee
tables, with years adopted, in our own files, for the follow-
ing societies:

Sonoma County: Ordinary labor, \$50 to \$75; difficult la-
bor, requiring instrumental interference, \$75 to \$150. Year
1928.

San Luis Obispo County: Confinement cases, \$50 up.
Year 1932.

San Mateo County: Uncomplicated labor, \$50 and up;
abnormal presentation, \$25 extra; instrumental delivery,
\$25 extra. Year 1925.

San Joaquin County: Ordinary obstetric cases, \$50; in-
strumental, \$75 to \$100. Year 1919.

Orange County: Uncomplicated labor, \$35 to \$75; abnor-
mal presentation, \$25 extra; version, \$25 to \$50 extra; in-
strumental delivery, \$10 to \$25 extra; Caesarean section,
\$150 to \$500. Year 1933.

The above may be of use to you in case the matter comes
up for discussion.

Cordially yours,

GEORGE H. KRESS, M. D.,
Secretary.

✓ ✓ ✓

ITEM II

**Letter to American Medical Association Secretary
West Regarding Obstetric Fee Schedules:**

(COPY)

CALIFORNIA MEDICAL ASSOCIATION

San Francisco, June 1, 1943.

Olin West, M. D., Secretary
American Medical Association
Chicago, Illinois

Dear Doctor West:

On Saturday, May 22, 1943, a meeting was held in the
office of the California State Board of Health in San Fran-
cisco, at which Doctor Daily of the Children's Bureau was
present. The subject of discussion was the proposed work
outlined by the Federal Children's Bureau having to do
with maternity and infant care for wives and infants of
men in the Armed Forces.

You have, no doubt, seen the six-page folder put out by

* For editorial comment see page 1.

the Children's Bureau, in which the proposed plan is outlined.

As we understand it, the federal representatives are contacting the state health boards to whom the payments of grants-in-aid will be made, in order to secure cooperation between the state health boards and the state medical societies.

At our San Francisco meeting we were very much surprised to have Doctor Daily inform us that, prior to working out presumable fee schedules, they had secured from the American Medical Association the fee tables our National Organization had in its files, and that in some 300 fee tables that had been passed over, not one had an allocation for confinement work in excess of \$35. I told Doctor Daily that I knew that in California heavier fees than that had been in operation for years.

I enclose a copy of a letter dated May 24, which was written to Doctor Tollefson, of our Los Angeles Committee, and which gives information along this line. . . .

May I ask you to check and inform us concerning the supposed 300 fee tables that were given to the Children's Bureau, with particular reference to the item mentioned above?

In a plan that will have the wide ramifications of the proposed maternity and infant care for wives and children of the men in the Armed Forces, it is important that the Federal Children's Bureau be supplied with the latest, and not antique information.

With all good wishes,

Cordially yours,

GEORGE H. KRESS, M. D.,
Secretary.

✓ ✓ ✓

ITEM III

Letter from American Medical Association Secretary West Regarding Their Files on Obstetric Fee Schedules:

(COPY)

AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street,
Chicago, June 3, 1943.

Dr. George H. Kress
Secretary, California Medical Association
450 Sutter, San Francisco, California

Dear Doctor Kress:

Your letter of June 1 was received this morning.

Immediately after reading your letter, I conferred with Doctor Leland, who knew of no fee schedule that had been supplied to any one connected with the Children's Bureau. Some time ago the Bureau of Medical Economics collected available information concerning fee schedules and compiled this information, the compilation including some 600 items. This material has never been published and Doctor Leland informs me that it has been unavailable for use by others.

In so far as we have been able to discover, the only material that has been sent by any one connected with the Bureau of Medical Economics pertaining to medical fees for obstetric services is a copy of an article that appeared in the Organization Section of The Journal of the American Medical Association for September 30, 1939. I am enclosing a copy of this article.

I have before me a copy of a letter under date of October 9, 1940, addressed by Mr. Simons, of the Bureau of Medical Economics, with which the material above referred to was transmitted to Doctor Daily. This letter reads as follows:

"Dear Doctor Daily:

"The only study of the average charge by physicians in obstetric cases that has been prepared by the Bureau of

Medical Economics is contained in an article by Dr. Leland, of which a copy is enclosed herewith.

"It should be understood that all fee schedules issued by county medical societies are considered only as guides to customary fees in the locality. In the income limits which you suggest (between \$1200 to \$3600 per year) such fees would be especially subject to individual adjustments by the physicians to meet the economic ability of the patient."

In 1937, our Bureau of Medical Economics received a letter from Dr. R. C. Hood, Director of the *Crippled Children's Division* of the Children's Bureau, asking for information pertaining to the cost of medical care in connection with services for crippled children. Mr. J. D. Laux, who was at that time employed by the Bureau of Medical Economics, compiled some information in compliance with that request. It was, however, definitely stated in Doctor Hood's letter that the information he asked for was intended for study by the orthopedic surgeon of the Children's Bureau concerned with the Bureau's program for aid to crippled children and that no tabulation would be sent to any state agencies. In the letter addressed to Doctor Hood by Mr. Laux, great care was taken to point out to Doctor Hood that any information pertaining to fee schedules should be used most judiciously and that fee schedules were intended to serve solely as guides and not as "clubs." As a matter of fact, the letter written by Mr. Laux was from end to end a warning about the injudicious use of fee schedules and evidently Doctor Hood was impressed, since in acknowledging receipt of Mr. Laux's letter, he assured him that the material that had been forwarded was intended only for the use of the orthopedic surgeon of the Children's Bureau.

With my sincere good wishes, I am

Very truly yours,

OLIN WEST, M. D.

✓ ✓ ✓

ITEM IV

Letter from Public Health Director Halverson Concerning Proposed Obstetric Plan:

(COPY)

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH
San Francisco (2), California, June 23, 1943.

Philip K. Gilman, M. D.
Council Chairman
California Medical Association
450 Sutter Street, San Francisco, California.

Dear Doctor Gilman:

We have today submitted to the Regional Office of the Children's Bureau our plan for emergency maternity and infant care for soldiers' dependents and should hear within the next week or so as to approval by the Children's Bureau.

The plan calls for the payment of \$50 for obstetrical care when given by a private physician and consultation fees from \$15 to \$50 in addition, depending on the services rendered.

Payment for infant care is on a case-week basis at the rate of \$12 for the first week and \$8 for each of two succeeding weeks on any authorization.

This department, in its publicity, will make it clear that in the vast majority of cases, i.e., in the large cities, the fee is not in line with the service and that the doctor is making a definite contribution. As soon as, and when the plan is approved, copies will be made and will be sent to you.

In looking over the bill (H. R. 2041) which Congress passed and which constitutes the legal basis for this program, I note that the Children's Bureau is authorized to make "payments to states for medical, nursing and hospital

maternity and infant care for the wives and infants of enlisted men in the armed forces of the United States of the fourth, fifth, sixth, and seventh grades." It is my opinion that this specific wording makes it necessary for the Children's Bureau to develop the program along the lines recommended in its Information Circular No. 13, a copy of which I sent you.

It would appear to me that the payment of a maternity benefit directly to the recipient of the service would not be possible under the present law. I inquired of the Children's Bureau whether or not any change in policy is contemplated as a result of the action taken by the House of Delegates of the American Medical Association. The answer was that no change is contemplated.

While the plan as submitted is not as either the California State Department of Public Health or the California Medical Association would like it, it seems to be necessary because of the great demand that it be initiated.

In line with our conversation this morning, I certainly trust that it will be possible for you to assist in conveying the information to the medical profession and in securing their understanding of the problem before us. You may rest assured that this Department will do everything possible to administer the program in a way that will be to the best interest of all concerned.

668 Phelan Building.

Very sincerely yours,

(Signed) WILTON L. HALVERSON, M. D.,
Director of Public Health.

♦ ♦ ♦

ITEM V

Letter From Council Chairman Gilman Requesting Information From State Board:

(COPY)

CALIFORNIA MEDICAL ASSOCIATION

June 25, 1943.

SUBJECT: Plan of Procedure by California State Board of Public Health, regarding Federal Grants-in-Aid from Federal Children's Bureau to Provide Obstetrical Care to Wives and Infants of Enlisted Men.

Wilton L. Halverson, M. D., Director
California State Board of Public Health
668 Phelan Building, 760 Market Street
San Francisco 2, California.

Dear Doctor Halverson:

Receipt of your letter of June 23, 1943, concerning the above is acknowledged.

May we suggest that publicity in regard to contemplated procedures, as outlined in your letter, be delayed by the California State Board of Public Health for at least two weeks, during which time it will be possible for the constituted authorities of the California Medical Association to consult on best ways and means of procedure, in so far as doctors of medicine are concerned.

At the meeting of the California Medical Association Council, held on June 20, the resolution enclosed herewith was adopted. (See Item VI.)

You will note that the Council holds to the view that whatever money allocation is made in this obstetrical work should be paid in each instance to the patient (the patient to choose her own physician and make her own financial arrangements with him).

Kindly inform us if you have secured a written opinion on the subject from the Legal Counsel of the California State Board of Public Health, and if so, will it be possible for you to send us a copy thereof?

Also, have you any statement in writing from the Federal Children's Bureau informing the California State Board of Public Health that it would be illegal for the California State Board of Public Health to use any of

this particular grant-in-aid money if it transmitted such money as may be the designated amount for an individual patient, to such patient direct, rather than to her physician?

If so, can you send us a copy of such opinion?

At the meeting of the House of Delegates of the American Medical Association held in Chicago on June 7-10, 1943, this subject was considered and the action taken thereon will probably appear in The Journal of the American Medical Association in its issue of June 26. (Appeared on page 621 of that issue.)

The June issue of "California and Western Medicine" carries a four-page discussion of the subject on pages 313-317.

I mention these items because you may wish to refer to them.

Be assured that the members of the California Medical Association are in full accord with the objective, namely, the giving of obstetrical care of wives and infants of enlisted men; but, at the same time, the California Medical Association hopes no steps will be taken that will make for a lowered quality of professional service in the work involved, or that will lead to the establishment of procedures that can do much injury to the best interests of scientific medicine and medical practice.

Cordially yours,

PHILIP K. GILMAN, M. D.,
Chairman of the
California Medical Association Council.

♦ ♦ ♦

ITEM VI

Resolution of California Medical Association Council, Adopted at Its Meeting in San Francisco, on June 20, 1943:

Appendix B

Resolution on Obstetrical Care of Wives and Infants of Enlisted Men as Adopted by the California Medical Association Council on June 19-20, 1943.

1. The Council of the California Medical Association is, when the House of Delegates is not in session, the governing body of the Association.

2. The California Medical Association at its 311th meeting held in San Francisco on June 19-20, 1943, having considered the problem herein discussed, adopts the following:

A. The Council approves, in principle, the objectives for obstetrical care for the wives and the infants of enlisted men as provided in the Federal First Deficiency Appropriation Act of 1943, approved on March 18, 1943.

B. The Council disapproves the method of procedure proposed, wherein the physicians who perform the obstetrical services would be obliged to accept certain fixed fees.

The Council holds:

(a) The patient should be permitted to choose her own physician, because in the long run that procedure will make for a quality of medical service more acceptable to the parties immediately involved, namely, the patient and the physician.

(b) The quality of medical care in different States and their communities depends upon many factors, not the least of which are the actual costs of giving the services involved.

(c) Throughout the Nation, war industry is carried on a cost-plus basis. Members of the medical profession likewise earn their livings through their industry. Physicians, nevertheless, have given hundreds of thousands of dollars to the Government in gratuitous work in Selective Service and other agencies. The maintenance of high standards of medical service is a principle to which physicians are definitely committed.

The establishment of a mandatory fee table under primary control of a non-medical bureau is a menace to the quality of present- and future-day medical service.

Physicians object to the institution of mandatory and inelastic fees that do not take into proper consideration all factors involved.

Therefore, be it

Resolved, That it is the opinion of the California Medical Association that the California State Board of Public Health, when it receives the federal grant-in-aid for this service to wives and infants of enlisted men, should establish an allocation of money to be paid to the patient, who shall use it in making her arrangements with the physician of her choice.

* * *

ITEM VII

Resolution of American Medical Association House of Delegates, Adopted in Chicago on June 8, 1943:

(COPY)

Appendix A

SUBJECT: *Federal Children's Bureau Plan for Maternity Care, etc.*

The following is an excerpt from Minutes of House of Delegates of American Medical Association, Chicago, June 7-10, 1943. (See Item 1 of Report of Reference Committee on Legislation and Public Relations in *The Journal of the American Medical Association*, June 26, 1943, on page 621.)

* * *

The American Medical Association House of Delegates in Chicago, on June 8, 1943, approved the following resolution:

1. *Resolutions Expressing Approval of Federal Assistance to Wives and Children of Service Men as Outlined in Plan Under Consideration by Federal Children's Bureau, introduced by Dr. John H. Fitzgibbon, Oregon:*

"Your reference committee recommends:

(a) That the action of the federal government in making funds available for maternity and infant care for the wives and infants of enlisted men be approved, and

(b) That the adoption be urged of a plan under which the federal government will provide for the wives of enlisted men a stated allotment for medical, hospital, maternity and infant care; similar to the allotments already provided for the maintenance of dependents, leaving the actual arrangements with respect to fees to be fixed by mutual agreement with the wife and the physician of her choice."

* * *

ITEM VIII

Resolution of Pacific States Medical Executives Conference, Adopted at Its Meeting in Portland, Oregon, on May 30, 1943:

(COPY)

PACIFIC STATES MEDICAL EXECUTIVES' CONFERENCE

Resolutions adopted on May 29-30, 1943, at the Fifth Annual Session in Portland; Philip K. Gilman, California, presiding.

* * *

The Reference Committee (George E. Henton, Oregon, Chairman, Homer D. Dudley, Washington, and George H. Kress, California) recommends the adoption of the following resolutions:

RESOLUTION No. 1

Resolved, That approval be expressed of federal assistance to the wives and children of service men as outlined in the plan under consideration by the Federal Children's Bureau; provided, however, that the constituent state medical associations which are members of the Pacific States Medical Executives' Conference, be requested to consider carefully the merits of the procedure proposed by the Oregon State Medical Society, wherein any allocations for

professional services agreed upon as compensation for obstetric work involved shall be given to the wives of enlisted men, such patients then to secure the services of physicians as they themselves deem proper, the fee for professional services to be decided by mutual agreement between the patients and the attending physicians; and

Resolved, That the Conference Secretary send outlines of the Oregon plan to the constituent state associations; and further

Resolved, The suggestion be made that a special committee composed of representatives of the Pacific States medical associations be brought into being, if possible, to further consider the above Oregon plan.

* * *

ITEM IX

Letter from Doctor Daily of Federal Children's Bureau to State Health Director Halverson:

(COPY)

CHILDREN'S BUREAU

U. S. DEPARTMENT OF LABOR

Washington, D. C., June 30, 1943.

Wilton L. Halverson, M. D.

Director of Public Health

State Department of Public Health

760 Market Street

San Francisco 2, California

Dear Doctor Halverson:

In reference to Doctor Bierman's telephone conversation of June 29 with Doctor Eliot, Congress, in appropriating funds for emergency maternity and infant care for wives and infants of enlisted men, specified that the funds were to provide medical, nursing, and hospital care. The payment of direct grants to the wives of enlisted men would give no assurance that the funds would be used to provide medical, nursing, or hospital care as specified by Congress. The appropriations for emergency maternity and infant care can be expended only by the State health agencies actually to purchase medical, nursing, and hospital care for wives and infants of enlisted men in accordance with a State plan approved by the Children's Bureau.

Sincerely yours,

EDWIN F. DAILY, M. D.,

Director, Division of Health Services.

* * *

ITEM X

Letter of Council Chairman Gilman to State Health Director Halverson Concerning Point of View Held by California Medical Association:

(COPY)

CALIFORNIA MEDICAL ASSOCIATION

July 1, 1943.

Wilton L. Halverson, M. D., Director

California State Board of Public Health

668 Phelan Building

San Francisco 2, California

Dear Doctor Halverson:

Your letter of June 29, in which you call our attention to the position of the California State Board of Public Health in the matter of the Maternity and Infant Care program of the Federal Children's Bureau, has been received and given careful consideration.

For your information, I am enclosing copy of a letter dated July 1, 1943, which has been sent to the component County Medical Societies of the California Medical Association.

The position which the Council of the California Medical Association has taken in regard to the Maternity and Infant Care program is explained therein. You will note

that the California Medical Association is in full accord with the objectives of the program, namely, the giving of adequate medical care to the wives and infants of enlisted men. However, the Council of the California Medical Association, on behalf of that organization, desires that the quality of this maternity and infant care shall be maintained up to the best standards of scientific medicine. The California Medical Association does not wish to become a party to procedures in administration that are not conducive to the maintenance of the highest quality of medical service.

If you will refer to the final paragraphs on page 2 of the letter of July 1, you will note that members of the California Medical Association are privileged to proceed as in their individual judgment may be deemed most desirable, in so far as payments for professional services rendered are concerned. However, the California Medical Association does not desire to have inflicted upon its members a mandatory or other fee table that is not in harmony with established costs of service in California.

The point of view of the Council of the California Medical Association is outlined in the enclosure that has gone forward with the letter of July 1, under the caption of "Appendix B," and which is also in line with the resolution passed by the House of Delegates of the American Medical Association, as given in the enclosure marked "Appendix A."

Be assured that, as in the past and even more during present days, the California Medical Association and its members will continue to do everything possible to promote success in every and all efforts designed to develop the best interests of our Country and its citizens in both military and civilian life.

Cordially yours,

PHILIP K. GILMAN, M. D.,
Chairman of the Council of the
California Medical Association.

ITEM XI

Letter to Members of Component County Medical Societies Concerning Procedure Available for California Medical Association Members in Relation to Obstetric Work:

(COPY)

CALIFORNIA MEDICAL ASSOCIATION

July 1, 1943.

SUBJECT: Plan of Federal Children's Bureau to Provide Obstetric and Pediatric Care for Wives and Infants of Enlisted Men.

The Members of the _____
County Medical Society, addressed
Dear Doctors:

I—Reference Items to the Children's Bureau Plan.

The important subject of maternity and infant care of wives and children of enlisted men is discussed in the June issue of CALIFORNIA AND WESTERN MEDICINE (now in the mails), on pages 314-317.

The "Journal of the American Medical Association," in its issue of June 26, on page 621, prints the action of the American Medical Association House of Delegates as taken on June 8, 1943. A copy of the resolution is enclosed herewith, as "Appendix A" of this letter.

At the meeting of the Council of the California Medical Association, held on June 20, the enclosed resolution, numbered "Appendix B," was unanimously approved. (With the objectives, the California Medical Association is in accord; with the proposed procedures to attain the objectives, we are not.)

Because the issues involved are of great importance to present and future medical practice, the above items are submitted for the careful consideration of the members of your County Society.

II—Position of the California State Board of Health.

Through conferences and letters (copies of which have been sent to California Medical Association Councilors), the State Board of Public Health has explained to California Medical Association Officers the extent to which it has been under pressure to put the Federal plan into operation along the lines promulgated by the Washington, D. C., Bureau.

* * *

III—Position of the California Medical Association.

Through its constituted authorities, the California Medical Association has given full approval of the objectives involved, namely, to provide adequate obstetrical and pediatric care to wives and infants of enlisted men.

The California Medical Association objects, however, to giving approval to a mandatory and somewhat inelastic fee schedule for the professional work involved, as has been put forth by the Federal Children's Bureau in Washington, D. C.

That being the case, and the Federal Children's Bureau seemingly being unwilling to modify its plan in line with the resolutions adopted by the California Medical Association and American Medical Association (see the references above given), the Council of the California Medical Association, in its relation to the component County Medical Societies, is now in the position in which it must advise California Medical Association members as follows:

1. The California Medical Association has not given approval to the procedures for payment, as put forth by the Federal Children's Bureau.

2. The California Medical Association feels sure that everywhere throughout the State, members of the medical profession at all times will gladly meet their full obligations in the professional care of wives and infants of enlisted men.

3. The California Medical Association advises and requests its members to take such individual action as they may deem proper in every such maternity case, as may come under their respective observation and care.

Therefore, members of the California Medical Association, as individual physicians, are free to accept payments from either the California State Board of Public Health, or from a patient, or from both.

* * *

In case the California Medical Association policy as above outlined is changed, the component County Medical Societies will be notified.

Cordially and fraternally,

PHILIP K. GILMAN,
Chairman of the Council of the
California Medical Association.

ITEM XII

Letter from American Medical Association Secretary West Concerning Obstetric Files:

(COPY)

AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street,
Chicago, June 29, 1943.

Dr. George H. Kress
Secretary, California Medical Association
450 Sutter, San Francisco, California

Dear Doctor Kress:

Since you wrote me concerning a statement made by Doctor Daily of the Children's Bureau and since I replied to your communication, giving the best information that had been available to me, I have persisted in an effort to discover definitely whether or not Doctor Daily had had

access to any figures prepared by our Bureau of Medical Economics pertaining to obstetrical fees. My persistence in the matter was due to a fear that it was possible that some one connected with the Bureau might have given Doctor Daily information without the Director of the Bureau knowing about it.

I have at last succeeded in turning up a letter addressed to Dr. R. C. Hood, Director of the Crippled Children's Division of the United States Department of Labor by a former employee of the Bureau of Medical Economics who left the services of the Association several years ago. That letter was written under date of March 11, 1937. We have also found a letter addressed to that employee by Doctor Hood. The letter addressed to Doctor Hood reads as follows: . . .

I think that the file referred to in this letter might have been found at an earlier date except for the fact that attention was focused on obstetrical fees.

It is to be remembered that the letter that emanated from our Bureau of Medical Economics was written on March 11, 1937, more than six years ago. It does not appear to me to be reasonable or fair to attempt to use any sort of fee schedule that may have been in effect in 1937 for the purpose of establishing fee schedules to apply in 1943.

I have diligently pursued this matter because I do not want to be unfair to any one. I had become convinced, after I received your last letter on the subject, that Doctor Daily must somehow have secured some sort of information through someone in the Association's office.

With most cordial good wishes, I am

Very truly yours,

OLIN WEST, M. D.

* * *

ITEM XIII

Letter to Doctor Daily of Federal Children's Bureau from California Medical Association Secretary, Requesting Information Concerning Fee Schedules:

(COPY)

CALIFORNIA AND WESTERN MEDICINE

July 8, 1943.

Edwin F. Daily, M. D., Director
Division of Health Services
Children's Bureau of the U. S. Department of Labor
Washington, D. C.

Dear Doctor Daily:

Enclosed herewith find a memorandum on which you will find a copy of your own letter of June 30 addressed to the California Director of Public Health, Dr. Wilton L. Halverson, the same relating to the manner in which the grants-in-aid for medical, nursing and hospital care for wives and infants of enlisted men may be made.

I also enclose tear sheets of an editorial which appeared in the June issue of CALIFORNIA AND WESTERN MEDICINE on page 314, under the caption "On Federal Children's Bureau Plan of Maternity and Infant Care for Wives and Infants of Men in the Armed Forces."

You will remember that when you conferred in San Francisco with the special California Medical Association Committee, of which Doctor Schaupp is chairman, and again when you conferred with the Southern Division of that Committee, you stated that the Federal Children's Bureau had availed itself of the information that had been given it by representatives of the American Medical Association concerning obstetrical fee schedules. Also, that you informed us that some three hundred fee tables which had been placed at your disposal by the American Medical Association, had a fee schedule of \$35 for the complete service. At least, we understood that to be your statement. You will remember that our contention was that \$35 did not

cover the cost of service, and in the discussion it was brought out that the fee should not be less than \$50 for the attending physician, and if the services of an obstetric specialist was necessary, up to \$50 additional should be available, according to the nature of the service rendered.

* * *

May I ask you to check on the records of the Federal Children's Bureau and inform us, as promptly as possible, from whom in the American Medical Association you received the above information? Your Washington, D. C., records will no doubt give you this information.

We ask that you send us this information by air mail, because in whatever comments may be made concerning the matter, we desire to have explicit data.

Hoping to hear from you by return mail, and with all good wishes,

Cordially and sincerely yours,

GEORGE H. KRESS, M. D.,

Secretary-Editor.

* * *

ITEM XIV

Letter from Indiana State Medical Association, Requesting Copies of California Medical Association Council Letters to California Medical Association County Medical Societies:

(COPY)

INDIANA STATE MEDICAL ASSOCIATION

July 6, 1943.

Dear Doctor Gilman:

Thanks so much for the material which you have sent us giving the point of view held by the Council of the California Medical Association toward the care of wives and children of service men by the Federal Children's Bureau.

If possible, we would appreciate receiving 27 additional copies of this material so that we may send a copy to each of the councilors and Executive Committee and Maternal and Child Health Committee members of the Indiana State Medical Association.

Yours sincerely,

THOMAS A. HENDRICKS,

Executive Secretary.

* * *

ITEM XV

Letter from Michigan State Medical Society to Its Members:

(COPY)

MICHIGAN STATE MEDICAL SOCIETY

Lansing, Michigan, June 17, 1943.

SUBJECT: Proposed Program of Obstetric-Pediatric Care for Wives and Infants of Enlisted Men in Michigan.

To Every Member of the
Michigan State Medical Society

Dear Doctor:

The Michigan State Medical Society has approved a plan for submission to governmental agencies re the above subject. This action was taken by the Executive Committee of The Council on June 16 and represented the first approval by the Michigan State Medical Society of any plan.

HISTORY. The study of plans for Michigan began on April 15 with consideration of proposals presented by the Bureau of Maternal and Child Welfare of the Michigan Department of Health. These were submitted by the State Society to the fifty-five county medical societies on May 4. By an overwhelming vote, the county medical societies disapproved them. As a basis for further negotiation, counter-proposals were prepared by a Study Committee of the Michigan State Medical Society Council on May 19. These

were accepted by the Michigan Department of Health, and were submitted to all county medical societies for their opinion. The second poll, however, again disclosed a decided disapproval by a majority of the county societies.

APPROVED PLAN. The plan definitely approved by the Executive Committee of the Council on June 16, based on advice received from county societies, is as follows:

Recognizing the responsibility of government to provide the usual comforts and necessities of life to wives and dependent infants of enlisted men in our armed forces, and consistent with the desires of our county medical societies as expressed in recent polls on this question.

This Committee recommends:

1. That federal grants be made direct to wives and dependent infants of enlisted men to provide the necessities of life, including medical care;

2. That such federal funds so paid to enlisted men's wives be used by the recipients as necessity requires;

3. That the Michigan State Medical Society should co-operate in a plan embodying the above principles; provided,

(a) That the program end six months after the termination of the present war;

(b) That the physician-patient relationship on a fee basis be maintained;

(c) That the details of operation and administration be worked out jointly by the Michigan Department of Health and a committee from the Michigan State Medical Society; that any future plans be subject to this same condition.

4. That a letter be sent to every county medical society and to every member of the Michigan State Medical Society requesting them to postpone participation until they receive notice from the Michigan State Medical Society that final details have been agreed upon.

A. M. A. ACTION. The Michigan State Medical Society action is in line with that taken by the House of Delegates of the American Medical Association, which met in Chicago, June 7-8-9, 1943.

USE OF GOVERNMENT BLANKS NOT AUTHORIZED. Despite the fact that blanks have been distributed by the Michigan Department of Health to county society secretaries, their use is not authorized, and no approval has been given by the Michigan State Medical Society to any plan excepting the one outlined above. This is being transmitted to the Michigan Department of Health and as soon as it is accepted, every Michigan State Medical Society member will be notified through his county medical society.

Until an official acceptance of the Michigan proposal is received, no plan which may be attempted in Michigan will receive the co-operation of the Michigan State Medical Society.

In the meantime, you should continue to render the best medical care to the wives and dependent infants of soldiers, sailors, marines and those in the Coast Guard, and this can be done best through the physician-patient relationship, devoid of politics, governmental domination and red tape.

HR-2041, which would continue this federal program for the duration and six months after the war's end, is in the United States House of Representatives Labor Committee. The annual appropriation is set at \$6,000,000.

Please write to your two Michigan Senators and your Congressman (list attached) AT ONCE, urging that they offer amendments to the bill to include the democratic principles outlined above (Nos. 1-2). Precedent for the direct grant to recipients has been established by the Social Security Board in providing recipients of Old Age Assistance with additional funds so that they may purchase necessary medical care from practitioners of their choice. No grant is made or should be made direct to the members of the medical profession.*

Thank you for contacting your Congressmen; this will help to counteract the gradual intrusion of State Rights.

2020 Olds Tower

Faternally yours,

MICHIGAN STATE MEDICAL SOCIETY,

By L. FERNALD FOSTER, M. D.,
Secretary.

ITEM XVI

List of United States Senators and Congressmen From California.

(In the list which follows, (R) means Republican and (D) means Democrat. Congress will be recessed during the months of July and August and will reconvene on September 14, after which Senators and Congressmen may be addressed at Washington, D. C.: the Senators in care of the Senate Office Building, and the Representatives in care of the House Office Building, Washington, D. C.)

SENATORS:

Hiram W. Johnston (R), Mills Tower, San Francisco.
Sheridan Downey (D), Atherton.

CONGRESSMEN:

First District: Clarence R. Lea (D), 719 North Street, Santa Rosa.

Second District: Vacant. Election pending.

Third District: J. Leroy Johnson (R), 1621 Argonne Drive, Stockton.

Fourth District: Thomas Rolph (R), 152 Twenty-Eighth Avenue, San Francisco.

Fifth District: Richard J. Welch (R), 978 Guerrero Street, San Francisco.

Sixth District: Albert E. Carter (R), 552 Montclair Avenue, Oakland.

Seventh District: John H. Tolan (D), 1749 Pleasant Valley Avenue, Oakland.

Eighth District: John Z. Anderson (R), San Juan Bautista.

Ninth District: Bertrand W. Gearhart (R), 857 M Street, Fresno.

Tenth District: A. J. Elliott (D), P. O. Box 134, Tulare.

Eleventh District: George E. Outland (D), 539 East Micheltorena Street, Santa Barbara.

Twelfth District: H. Jerry Voorhis (D), R. F. D. 1, San Dimas.

Thirteenth District: Norris Poulson (R), 317 South Commonwealth, Los Angeles.

Fourteenth District: Thomas F. Ford (D), 940 North Benton Way, Los Angeles.

Fifteenth District: John M. Costello (D), 5771 Valley Oak Drive, Hollywood.

Sixteenth District: Will Rogers, Jr. (D), 14253 Sunset Boulevard, Los Angeles.

Seventeenth District: Cecil R. King (D), 1152 West Eighty-Eighth Street, Los Angeles.

Eighteenth District: Ward Johnson (R), 790 Santiago Avenue, Long Beach.

Nineteenth District: Chet. Holifield (D), 500 South Montebello Boulevard, Montebello.

Twentieth District: Carl Hinshaw (R), 3053 Lombardy Road, Pasadena.

Twenty-First District: Harry R. Sheppard (D), Yucaipa.

Twenty-Second District: John Phillips (R), 65 North Fourth Street, Banning.

Twenty-Third District: Ed V. Izac (D), 5380 El Cajon Boulevard, San Diego.

* Editor's Note: For list of California Congressmen, see adjacent column. (Item XVI.)

ITEM XVII*

Table Showing Number of Births in California (by Counties and Cities) for Months of January, February, and March, 1943.

(a) (c) and (e) = Total All Births.

(b) (d) and (f) = Births to Wives of Enlisted Men.

	JANUARY 1943		FEBRUARY 1943		MARCH 1943	
	(a) Total Births in California	(b) to Wives of Calif. Armed Forces	(c) Total Births in California	(d) to Wives of Calif. Armed Forces	(e) Total Births in California	(f) to Wives of Calif. Armed Forces
CALIFORNIA	13,483	2,109	12,993	2,228	14,939	2,878
Alameda County†	42	39	1	4		
Oakland	703	87	635	81	126	
Alameda	87	20	59	13	12	
Berkeley	205	25	186	28	27	
San Leandro	1					
Albany	69	4	80	6	7	
Hayward	65	4	52	8	4	
Piedmont						
Alpine County						
Amador County	6	5				
Butte County†	57	10	60	6	7	
Chico	17	6	15	3	8	
Calaveras County	3	1	1			
Colusa County	22	3	13	1	4	
Contra Costa Co.†	25	3	37	2	6	
Richmond	113	8	113	8	5	
Martinez	38	3	26	6	8	
Pittsburg						
El Cerrito		2				
Antioch	35	3	41	1		
Del Norte County	6	1	7		2	
El Dorado County	11		10	1		
Fresno County†	131	21	127	15	27	
Fresno	131	28	144	38	30	
Coalinga	9		11	2	1	
Glenn County	9		12	3	2	
Humboldt County†	24		17		4	
Eureka	34	8	48		7	
Imperial County†	34	2	39	2	6	
Brawley	51	2	41	4	4	
Calexico	12	1	19	1	2	
El Centro	48	7	14	1	6	
Inyo County	25		30	1		
Kern County†	139	26	133	33	41	
Bakersfield	151	38	116	24	29	
Kings County†	28	3	28	3	6	
Hanford	46	11	51	12	17	
Lake County						
Lassen County	24	3	42	3	5	
Los Angeles Co.†	485	62	573	70	105	
Los Angeles	2,809	330	2,445	339	423	
Alhambra	67	11	67	5	15	
Long Beach	608	138	489	126	160	
Pasadena	152	30	162	32	33	
Pomona	59	8	58	11	6	
Santa Monica	199	22	109	13	70	
Glendale	244	18	309	46	29	
Monrovia	14	1	16	3	2	
Redondo Beach	3		2			
South Gate	45	6	92	11	16	
Torrance	73	12	27	1	10	
Whittier	90	12	60	1	10	
South Pasadena	1	12		6	16	
Arcadia						
Bell	51	8	95	7	11	
Beverly Hills						
Burbank	27	4	38	3	2	
Compton	50	3	61	8	17	
Culver City	34	4	66	6	9	
Hawthorne	51	3	47	4	13	
Huntington Park	46	12	70	8	13	
Inglewood	96	9	97	10	13	
Lynwood	13	2	20	3	4	
Maywood	55	10	99	17	15	
Montebello	2	0		0		
Monterey Park	38	7	43	7	5	
San Fernando	42	11	32	1	4	
San Gabriel	1		3			
San Marino						
Azusa	2		8		1	
Hermosa Beach	27	3	21	4	8	
Gardena			2			
Manhattan Beach						
Madera County†	6		8		2	
Madera	36	4	41	7		
Marin County†	32	4	38	7	1	
San Rafael	54	8	53	7	10	
San Anselmo						
Mariposa County			1			
Mendocino County	39	3	31	4	1	
Merced County†	94	13	82	14	19	
Merced	16	2	28	7	7	
Modoc County	33	1	24		3	
Mono County						
Monterey County†	111	15	124	29	35	
Monterey	17	14	20	20	33	
Pacific Grove			3		3	
Salinas	38	9	39	12	14	
Napa County†	23	2	17	4	5	
Napa	35		50	2	3	
Nevada County†	12	3	15	29	4	
Grass Valley	16	5	9		2	
Orange County†	45	2	54	5	4	
Santa Ana	45	7	68	15	19	
Anaheim	15	5	15	1	2	
Fullerton	46	9	51	10	9	
Orange	62	17	87	31	37	
Placer County†	22	1	21		6	
Roseville	1		1			
Plumas County	12		15			
Riverside County†	81	13	79	17	23	
Riverside	125	37	135	48	64	
Corona	15	2	18	3		
Sacramento Co.†	11	2	12	3	2	
Sacramento	379	64	378	74	92	
San Benito County	14	1	15	2	1	
San Bernardino Co.†	88	7	70	10	18	
Redlands	29	6	27	4	9	
San Bernardino	151	27	138	16	31	
Ontario	11	1	11			
Colton	2		10	1		
Upland	68	7	42	6	10	
San Diego County†	136	54	98	38	47	
San Diego	565	160	621	170	208	
Coronado	10	3	11	1	4	
National City	81	6	68	7	10	
Chula Vista					1	
San Francisco Co.	1,088	212	1,103	249	309	
San Joaquin Co.†	72	10	72	8	7	
Stockton	138	21	124	19	25	
Lodi	38		39	1	9	
San Luis Obispo Co.†	42	19	31	18	31	
San Luis Obispo	32	17	34	9	30	
San Mateo County†	1					
San Mateo	90	11	70	10	14	
Burlingame			1			
Daly City						
Redwood City	6		9		2	
South San Francisco	16	3	30	2		
San Bruno						
Santa Barbara Co.†	17	8	33	15	18	
Santa Barbara	51	14	44	12	10	
Santa Maria	40	11	58	20	7	
Santa Clara Co.†	163	20	142	20	31	
San Jose	115	15	117	10	19	
Palo Alto	106	21	94	19	16	
Santa Clara	1		1			
Santa Cruz Co.†	15	6	5	3	3	
Santa Cruz	33	3	27	5	10	
Watsonville	35	9	33	6	12	
Shasta County†	11		9		1	
Redding	30	4	42	3	6	
Sierra County	1					
Siskiyou County	34	4	28	5	3	
Solano County†	28		31	1	2	
Vallejo	224	36	156	40	48	
Sonoma County†	46	11	41	9	11	
Petaluma	19	3	35	5	3	
Santa Rosa	44	3	31	8	5	
Stanislaus County†	55	2	47	5	3	
Modesto	131	17	94	8	12	
Sutter County	35	7	19		11	
Tehama County	32		18		1	
Trinity County						
Tulare County†	91	7	123	16	13	
Visalia	42	11	46	8	7	
Porterville	13	4	31	3	8	
Tulare	1		4		1	
Tuolumne County	6	3	10	1	2	
Ventura County†	32	3	24	3	8	
Oxnard	33	7	45	8	4	
Santa Paula	13	1	29	5	3	
Ventura	34	9	15	6	14	
Yolo County†	9		4		1	
Woodland	26	5	24	7	4	
Yuba County†			1			
Marysville	25	4	23	8	8	

* This table was prepared from birth certificates filed with the State Department of Public Health. The selection of those that pertain to births in wives of service men was based upon the information provided under the item "occupation" on the certificate. The data are to be considered as an index only. There may have been more or fewer births to wives of men in uniform. This tentative list would indicate that approximately 17.5 per cent of all births are children of enlisted men. Whether the approximate percentage will continue is, of course, a question.

† Exclusive of cities listed, located in the county.

ITEM XVIII

Copy of a Statement of Policy by the Ohio State Medical Association Received by the California Medical Association on July 17, 1943.

(COPY)

Statement of Policy Adopted by the Council, Ohio State Medical Association, on July 11, 1943, Recommending Methods of Assisting Wives and Infants of Service Men to Obtain Financial Assistance for Medical and Nursing Services and Hospitalization in Ohio, and Opposing Plan Proposed by the Children's Bureau, United States Department of Labor.

In adopting this report, the Council made the following stipulations: (1) That the Committee on Public Relations confer with representatives of the Army, Navy, and Air Force relief agencies and offer assistance in working out a plan in accord with the recommendations contained in the report; (2) that State Director of Health Markwith and others who may have an interest in the question be invited to participate in such conferences; (3) that copies of the Council's action and the report be transmitted to Governor Bricker, the American Medical Association, all county medical societies in Ohio, and other state medical associations.

TEXT OF REPORT

At a conference held in Columbus on Saturday, June 19, the Committee on Public Relations and Economics discussed with Dr. R. H. Markwith, State Director of Health, a proposal suggested by the Federal Government, that there be established in Ohio a program to provide medical and hospital maternity and infant care for the wives and infants of enlisted men in the armed forces of the United States.

Such a program would be financed by the Federal Government through money allotted to the state by the United States Department of Labor. The State Department of Health, through its Division of Child Hygiene and other divisions, would administer the program in Ohio under general procedures, policies, and regulations promulgated by the Children's Bureau, United States Department of Labor.

Any wife of any enlisted man of the fourth, fifth, sixth, and seventh grades, irrespective of legal residence or of financial status, on application would be eligible to receive medical and hospital maternity care, including antepartum examinations, delivery, postpartum care and postpartum examination at the expense of the Federal Government under the proposed program. Children of such women under one year of age would be eligible to receive medical, hospital and nursing care, when ill, under the same conditions. In making application to receive such care for herself and child, or children, the wife of the enlisted man could select a physician and hospital willing to participate in the program, but the physician or hospital selected would have to certify that he or it will provide the services authorized at a stipulated fee set forth in the proposal, without additional payment from the patient or other persons.

A stipulated schedule of fees for the medical and hospital services, as well as nursing services, would be established. It is proposed that the inclusive rate to be paid a physician for complete medical services during the antepartum, labor and puerperium would be \$35. The services would include antepartum examinations, delivery, postpartum care and postpartum examination approximately six weeks after delivery, and routine blood test for syphilis, hemoglobin determination, and urinalysis. Whenever the physician doing the delivery would not give antepartum care, he would be paid \$25 for delivery and postpartum care. Whenever less than five antepartum examinations were made, the physician would be paid at the rate of \$2 per examination. Five or more examinations would be paid for at the flat rate of \$10 per case for antepartum care. Fees of \$10 for consultation, \$25 for minor surgery, and \$50 for major surgery are proposed. Initial authorization for medical care for sick infants would cover a period not to exceed three weeks, and payments would be as follows: home or hospital visit, \$3; office visit, \$2, with the total amount authorized not to exceed \$20. Provision for authorization for additional services for infants is incorporated in the proposal. The proposal also contains rules and stipulated fees for nursing services and hospitalization.

An appropriation of approximately \$6,000,000 to finance this program throughout the entire country has been requested from the Congress.

* * *

Since the conference on June 19, your Committee has analyzed the following Reference Committee report on this subject, adopted without a dissenting vote by the House of Delegates of the American Medical Association in session on June 8, 1943, in Chicago: [Editor's Note: The American Medical Association resolution appears as Item VII in this series.]

* * *

Moreover, since the meeting on June 19, members of your committee and several members of the Council of the Ohio State Medical Association have conferred with Army officers charged with the responsibility of administering the program of a corporation known as Army Emergency Relief. Contacts have not been made as yet with officials of similar organizations functioning for the Navy and the Air Force.

Army Emergency Relief is a corporation formed in the District of Columbia in February, 1942. Its purpose is set forth in its certificate of incorporation as follows:

The particular business and objects of said corporation shall be to collect and hold funds and to relieve distress of personnel of the Army of the United States and their dependents, including dependents of honorably retired or discharged and deceased personnel thereof, to provide for their education and to secure employment for honorably retired or discharged personnel and their dependents, and the dependents of deceased personnel.

General supervision of the activities of the branches and sections to which the administration of Army Emergency Relief is decentralized throughout the Army, and the control of funds, are important military duties delegated to commanders concerned. General Wallace, commanding general of the Fifth Service Command, is the officer controlling administration of the organization's program of relief and assistance in Ohio, Kentucky, West Virginia, and Indiana.

Army Emergency Relief and the American Red Cross have adopted a working agreement with respect to the handling of details in rendering assistance to the families of personnel of the Army. A substantial fund is in possession of Army Emergency Relief for carrying out its purposes, the money having been raised through special fund-raising activities, revenue from events of various kinds and miscellaneous contributions from patriotic and public-spirited citizens.

The funds of Army Emergency Relief may be used for financial assistance in the form of a loan, cash grant or relief in kind for families of Army personnel who are in need of assistance. Financial assistance for medical and nursing services and hospitalization is considered one of the most important phases of the program of the organization.

Officials consulted on this matter state that financial assistance for medical and nursing services and hospitalization is at present being provided to eligible families. It is their opinion that this program of assisting such families who are in need of medical and nursing services and hospitalization, including obstetrical services of wives of soldiers and medical care for the children of soldiers, can, and should, be expanded. They welcome the assistance and coöperation of the medical profession of Ohio in making this program of greater practical value. Obviously, the funds of Army Emergency Relief are not unlimited as to amount, but it is felt that the organization is in a position to meet the needs of deserving cases if accorded real coöperation on the part of physicians, nurses, and hospitals.

* * *

Based on the conference referred to and after a careful study of the questions which have been discussed, your

committee makes the following recommendations for consideration of the Council:

The Ohio State Medical Association is fully aware of the fact that it is the obligation of the medical profession to see that all persons residing in Ohio, whether temporarily or permanently, receive necessary medical care, including the wives and children of personnel of the armed forces. Although we have reason to believe that this obligation will be met irrespective of the ability of an individual to pay for such services, the Association makes a special plea to its members to see that the traditional policy of the medical profession that all persons, regardless of financial status, shall be provided with an opportunity to utilize the advantages of modern scientific medicine is complied with at this time.

The Association realizes that it may not be possible for the medical profession to carry out the above recommendation if there should be a large number of cases ineligible to receive assistance under existing public assistance programs. Therefore, it is conceded that some plan to assist the medical and nursing professions, and hospitals, may be needed in the near future.

Therefore, this Association should cooperate with Army Emergency Relief in furthering its program of providing financial assistance for the families of Army personnel needing such assistance for medical and nursing services and hospitalization. The same offer of cooperation should be extended to similar agencies of the Navy and the Army Air Force. These agencies were established for the purpose of assisting families of personnel of the armed forces in providing necessities of life, including medical and nursing services and hospitalization. They have funds which would appear to be sufficient to meet current requests for assistance and a considerable number of additional requests. If this procedure can be worked out satisfactorily—and we believe it can—there will be no necessity for the use of public funds or the maintenance of a Government-controlled medical program to furnish medical care for the wives and children of service men.

It is recommended that Army Emergency Relief and similar agencies of the Navy and Air Force in providing financial assistance to the families of service men so they may obtain necessary medical and nursing services and hospitalization should make such assistance available in the form of a loan or cash grant. This will enable the wife to make her own arrangements with respect to fees, services, etc., with a physician of her own choice for herself or children.

In event the funds of the relief agencies of the Army, Navy or Air Force are found inadequate to provide assistance for all worthy cases, we would then favor the adoption of a plan under which the Federal Government would provide financial assistance by making a stated cash allotment for medical and nursing services and hospitalization to the wife and children of enlisted men on the basis of need. *This would be similar to the present arrangement under which cash allotments are provided for the maintenance of dependents of service men. If such a plan should become necessary, we feel that it would be desirable for this Association to bring the matter to the attention of Ohio's representatives in the United States Congress and urge them to sponsor legislation to provide the necessary funds and distribution of such funds as suggested.**

The Association is opposed to the proposal sponsored by the U. S. Children's Bureau and urges the State Director of Health of Ohio not to put such plan into effect in Ohio for the following reasons:

1. There appears to be no need for the Children's Bureau program, as we are confident that the relief agencies of

the Army, Navy, and Air Force can provide adequate financial assistance for needy cases.

2. The Children's Bureau plan would provide assistance in the form of medical and nursing services and hospitalization irrespective of need.

3. It would not provide the wife of an enlisted man with the unrestricted freedom of choice of physician, nurse, or hospital for herself and children, as the choice could be made only from among those willing to participate in a governmentally administered medical, nursing and hospital program.

4. It would establish a medical, nursing and hospital program under control of the Federal Government, even though it would be administered directly by the State Department of Health, as the latter would be subjected to the policies and regulations of the Children's Bureau at Washington.

5. It would preclude assistance on the part of relatives and friends of the families of service men as well as voluntary relief and welfare agencies, any or all of whom might be willing, and in a position, to provide assistance in worthy cases.

6. It would establish a mandatory, inelastic maximum fee schedule for professional fees and hospitalization, regardless of the merits of individual cases and circumstances involved.

7. It would place a third party, namely, a federal agency, virtually in control of medical services and inject a third party into the relationship between physician and patient.

8. It would establish the base for a much larger federally controlled medical care program to cover all classes of citizens, not only the families of men in the armed forces.

9. It would have a tendency to reduce the quality of the services rendered—a tendency ever present in bureaucratic programs which place administrative controls and red tape and occasionally political interference, between the producer and recipient of professional services.

Chemical Casualties: Lecture Teams

California State War Council, through the Emergency Medical Service, Morton R. Gibbons, M. D., Chief of the Northern Sector, has organized teams to give lectures on Chemical Casualties. Information follows:

CALIFORNIA STATE WAR COUNCIL
SACRAMENTO, CALIFORNIA
995 Market Street
San Francisco, 3

June 29, 1943.

Dear Doctor Kress:

First let me thank the California Medical Association for the cooperation its staff gave our clerk in checking the membership lists of the county medical societies. This was a great help to us in connection with preparations for the course of instruction in "The Prophylaxis, Care, Pathology, and Treatment of Chemical Casualties," circular relative to which is attached.

This circular, together with an announcement giving details of time and place for each county (sample of San Mateo announcement enclosed) will be sent by the county societies to all members. This office will mail to all non-members of each county society.

As explained in the circular, these courses will be given by teams from the faculties of the medical departments of the University of California and Stanford University who were prepared in the subject at the school held in San Francisco in mid-May. This school was addressed by specialists from the O. C. D, U. S. Army, U. S. Navy, and the National Research Council. Much material not yet

* A list of California congressmen appears under Item XVI, for convenience of California Medical Association members.

published—the latest experience, thought, and usage in war gases—was received.

All physicians are urged to attend. The schedule as arranged to date follows:

San Joaquin County—Thursday, July 8, Clubrooms, Medico-Dental Building.

San Mateo County—Tuesday, July 13, Mills Memorial Hospital.

Fresno County—Tuesday, July 13. Awaiting notification of place.

Santa Clara County—Friday, July 16, Medico-Dental Building, Auditorium.

Marin County—Thursday, July 15, San Rafael City Hall.

Monterey County—Thursday, July 15, Colton Hall, Monterey.

San Francisco County—Sunday, July 11, 9 to 1 o'clock, War Department Theater, Presidio.

Sacramento County—Date not set as yet.

Sincerely,

(Signed) MORTON R. GIBBONS, M. D.,
Chief, Emergency Medical Service
Northern California Sector.

Northern California Sector
EMERGENCY MEDICAL SERVICE
Division of Civilian Protection
CALIFORNIA STATE WAR COUNCIL

To Members of the Medical Profession:

Members of the faculties of the medical schools of the University of California and of Stanford University will visit your city to give you the latest information concerning "The Prophylaxis, Care, Pathology and Treatment of Chemical Casualties." Much of the information will not be available from any other source. It is new—the result of the latest investigations! Instruction will include a sound film. Such an opportunity should not be missed! The accompanying notice will give you time and place. You are urged to attend.

MORTON R. GIBBONS, M. D.,
Chief, Emergency Medical Service,
Northern California Sector.

SAN MATEO COUNTY MEDICAL SOCIETY NOTICE OF SPECIAL MEETING

Time, Tuesday, July 13, 7:45 p. m.

Place, Mills Memorial Hospital, San Mateo.

Subject, "Prophylaxis, Care, Pathology and Treatment of Chemical Casualties."

Please see the enclosed circular letter from Morton R. Gibbons, M. D., Chief of the State Emergency Medical Service, Northern Sector, for details of this important meeting presenting speakers from the medical schools of Stanford University and the University of California who have been especially prepared on this subject. Descriptive sound film is included and each registrant will be provided with a syllabus to which notes from the lecture may be added.

Each physician in attendance will be required to register.

LOGAN GRAY, M. D., Secretary,
San Mateo County Medical Society,
57 Fourth Avenue, San Mateo.

Northern California Sector
EMERGENCY MEDICAL SERVICE
Division of Civilian Protection
CALIFORNIA STATE WAR COUNCIL

July, 1943.

To Members of the Medical Profession of San Francisco:

Under the sponsorship of the State Emergency Medical Service and of the San Francisco County Medical Society, special arrangements have been made to present an instruction team made up of members of the faculties of the medical schools of the University of California and of Stanford University, on the subject:

"The Prophylaxis, Care, Pathology and Treatment of Chemical Casualties."

Time, Sunday, July 11, 1943, 9:00 a. m. to 1:00 p. m.

Place, War Department Theater, Presidio, San Francisco. (Inquire at Presidio gate, Lombard Street entrance, for directions to the War Department Theater.)

Instruction team: Troy C. Daniels, M. D.; David A. Ryland, M. D.; Leslie L. Bennett, M. D.

Field exercise directed by Lieutenant Colonel Grant Jenkins, Chemical Warfare Service, U. S. Army.

Instruction will include an illustrative sound film.

Much of the information to be given is available from no other source. It is new—the result of the latest investigations!

All physicians in San Francisco are invited—and urged—to take advantage of this opportunity to prepare for service in this field, should need arise.

MORTON R. GIBBONS, M. D.,
Chief, Emergency Medical Service,
Northern California Sector.

HENRY GIBBONS, III, M. D.,
Chief, Emergency Medical Service,
San Francisco War Council.

"Victory Depends On Me."—At a recent gathering of the California Board of Medical Examiners it was the Editor's privilege to hear Walter K. Wilson, Major General, U. S. A., upon request, recite a poem he had written, "Victory Depends On Me." The sentiments expressed in the verses suggest their suitability for placement in this department of the "California Medical Association Committee on Participation of the Medical Profession in the War Effort." Verses follow:

VICTORY DEPENDS ON ME

I am a Soldier, tried and true,
Who fights, in order to subdue
The Axis foe across the sea—
For Victory depends on Me.

I am a fighting Sailor lad
Who sails in weather, good and bad,
To sink our foe upon the sea—
For Victory depends on Me.

I am a bold and brave Marine
Who lands on shores I've never seen
To fight and smash the enemy—
For Victory depends on Me.

An Aviator, bold, am I
Who knocks the Axis from the sky
And sinks their ships upon the sea—
For Victory depends on Me.

I am a steady Working Man
Who works to build the best I can
The ships, the planes, the guns, you see—
For Victory depends on Me.

Americans, let's do our part
And work and work with all our heart.
Let each one say with certainty—
That Victory depends on Me.

God, our Father, to Thee we pray
To guide us on our stormy way.
Inspire, and make each one to see—
That Victory depends on Me.

W. K. W.

U. S. Medical Genius Saving War Victims

Chicago, June 7.—An inspiring epic of American military medicine in saving the lives of the heroes who have expelled the Axis armies from North Africa was unfolded at the opening of the American Medical Association's annual session in Chicago today.

In the battles to come, the American combatants will receive such medical care as the world has never before known, according to Dr. Norman T. Kirk, Surgeon General of the United States Army, Brig. General Dr. Fred W. Rankin, and Dr. H. H. Shoulders, speaker of the Association's house of delegates.

Death Rate Lower

The death rate among all battle casualties, General Kirk said, including wounded and ill, in Tunisia, has been between 2.5 and 3.5 per cent. This refers to "evacuation hospitals," where the soldiers are given their first treatment before any are sent to "base hospitals."

In the first World War, the comparable death rate varied between 15 and 18 per cent.

General Kirk said that the low death rate and the very low incidence of infections in the wounds was accomplished by three measures: use of blood plasma, excellent surgery required to clean the wounds, and use of sulfa drugs.

Capital Service

The American people who have helped in building up the blood plasma banks have rendered capital service to the soldiers, General Kirk pointed out.

Improved methods of making plaster casts, which allow better blood circulation, are being developed. The new drug penicillin, most powerful of germ killers known to science and still in the experimental stage, is not available for general use.

Doctor Rankin pointed out that, henceforth, American organized medicine will have to harmonize State controlled medicine with private medicine.

Doctor Shoulders also emphasized that the need of the hour is not for "medical politicians," but for "medical statesmen."

Said he:

"The whole future of our profession will be determined not by research, however important its contributions might be, but by the character of the medical statesmanship to be employed."—San Francisco *Examiner*, June 8.

Office of War Information Sets Total Casualties Since Outbreak at 91,644.—Casualties of the armed forces since the outbreak of the war now total 91,644.

The Office of War Information said tonight this includes 16,696 dead; 21,828 wounded; 31,579 missing; and 21,541 prisoners of war.

Army casualties total 64,621, divided as follows:

Killed, 8,533; wounded, 17,094; missing, 21,046; prisoners of war, 17,948. Of the wounded, 6,268 have returned to active duty or have been released from hospitals. The Army casualties include 12,506 Philippine scouts. Of these, 481 were killed, 743 wounded, and the remainder are presumed to be prisoners of war.

Navy casualties totaled 27,023 as follows:

Dead, 8,163; wounded, 4,734; missing, 10,533; prisoners of war, 3,593.

Marine Corps—Dead, 1,688; wounded, 2,447; missing, 987; prisoners of war, 1,737; total, 6,859.

Coast Guard—Dead, 182; wounded, 22; missing, 157; prisoners of war, 1; total, 362.—Los Angeles *Times*, July 4.

Spas for War Casualties.—Serious consideration should be given a resolution passed by the recent legislature memorializing Congress to start acquisition of some of California's mineral springs as locations for convalescent hospitals for invalid soldiers of the present war.

This state is blessed with over four hundred mineral springs of high potential curative value, but only a few ever have been developed and even those not extensively.

None of the famous spas of Europe or the eastern United States have waters superior to those available in California. For years there has been agitation for their development, but the State's interests have been on other things and this marvelous resource has gone neglected.

The war's inevitable casualties now bring their importance to the fore as a national asset. Army and Navy medical authorities will have thousands of convalescents to care for, many of whom will be of the type to be greatly benefited by mineral-water treatments. Where could hospitals with these facilities be better situated than in California with its matchless climate as an added therapeutic agency?

The League for Development of California's Mineral Springs, with headquarters here, is starting an aggressive campaign for recognition of this opportunity. It deserves all possible public support.—Editorial in San Francisco *News*, May 28.

Medical Graduates—Many Will Go Into Services

Only 20 per cent of the medical graduates each year can now be spared for care of civilians. The others will go into the military medical corps as long as the war lasts.

This prospect was sketched to the house of delegates of the American Medical Association in Chicago by Dr. James E. Paullin, of Atlanta, the Association's new president.

The yearly total of new civilian physicians he estimated at about 1200. To this he added about 600 who are being retired each year from military service. Against this the doctors who are left, mostly men over 45, are dying at the rate of 2500 a year.

This leaves a deficit of about 700 a year. To meet this, and the big shortage due to nearly half the active doctors already in military service, Dr. Paullin said plans should be made now for better use of the older physicians who have not been very active in medical practice.

It is the hope of organized medicine to have one doctor for each 1500 persons in the United States. This compares with an average of two to four per thousand in many areas, and is much better than some rural communities which have seldom or never had more than one doctor for 2500 to 3000 persons.—Redwood City *Tribune*, June 12.

Selective Service Will Check On Doctors to Determine Deferments

Washington, June 22.—Selective Service disclosed today that local boards have been instructed to check closely on the work of men asking or already granted occupational deferment as resident doctors in hospitals.

It was explained officially that information received by headquarters indicated that, despite the army's "great need" of doctors for its units, there are a "large number of young doctors" serving as residents in "many hospitals throughout the United States."

The boards were told not to defer resident doctors who "are engaged in the furthering of their medical education or are under the strict supervision of and dependent upon another doctor or other doctors in the work performed."

Deferment may be granted, however, if the doctors are "engaged in work involving independent diagnosis and treatment of patients subject only to the ordinary hospital staff supervision."—Sacramento *Bee*, June 22.

† Harold A. Fletcher, M. D., 490 Post Street, San Francisco, is the State chairman on Procurement and Assignment Service, with supervision of all counties north of the fourteen southern counties.

Associate California chairman for the fourteen southern counties is Edward M. Pallette, M. D., 1930 Wilshire Boulevard, Los Angeles.

Doctors desiring to go into the Army may have their papers prepared and receive orders for physical examination from the Officer Procurement Service, 328 Flood Building, San Francisco, in charge.

Affiliated Hospital Units of the Office of Civilian Defense: General Rules

One hundred ninety-one hospitals and medical schools have been invited by the Surgeon General of the U. S. Public Health Service to organize affiliated hospital units of the Emergency Medical Service of the U. S. Office of Civilian Defense. The invitation was extended to so large a number of civilian hospitals because each unit will be called upon for service only in a war emergency affecting its own region. Units will be activated only in event of a grave military disaster affecting the civilian population or military personnel in the area in which the parent hospital is located. Activation of a unit will take place only upon recommendation of the State Chief of Emergency Medical Service and the Office of Civilian Defense Regional Medical Officer, subject to certain limitations imposed by the Surgeon General and the Chief Medical Officer of the Office of Civilian Defense and by agreements with the invited hospitals.

Because these limitations may not as yet be understood by all physicians and hospitals which have been invited to participate in the Emergency Medical Service, the rules governing activation of affiliated units are set down as follows:

1. Members of the staffs of affiliated units are commissioned in the inactive reserve of the U. S. Public Health Service, generally with the rank of Passed Assistant Surgeon, Surgeon, or Senior Surgeon (equivalent, respectively, to Army ranks of Captain, Major, or Lieutenant Colonel). They will remain on inactive status for the duration of the war unless urgent need for their services should arise in their region because of an air raid or other grave wartime disaster. When activated under such circumstances, these officers will receive the pay and allowances of officers of equivalent grades in the armed forces.

2. The two specific purposes for which a unit may be activated are:

(a) For duty in an emergency base hospital to which civilian casualties and other hospitalized patients must be transferred because a community is under enemy attack and one or more of its hospitals must be evacuated.

(b) For temporary duty to assist the armed forces at the time of an extraordinary military emergency which may temporarily overtax local military hospital facilities. Such temporary assistance will be provided in or near the locality in which an affiliated unit has been organized. The period of emergency assistance is expected to be of short duration and will last only until the Surgeon General of the Army can send in additional medical officers or until he can distribute the excessive load of sick and wounded to military hospitals in other parts of the country. Affiliated units are organized primarily for civilian protection and are not to be used to staff military hospitals as they expand to meet increasing medical requirements of the Army.

3. Since affiliated units are organized by the Medical Division of the Office of Civilian Defense as part of the Emergency Medical Service of their States, they will be expected to provide aid only in their own or neighboring States. Their members will not be detached for duty in other parts of the country nor, in accordance with the terms of their recruitment, will they be activated for any other duty except those listed in paragraph 2 of this statement.

4. A unit organized from the staff of a teaching hospital of a medical school will not be called unless the hospital itself must be evacuated or unless there is no unit from a non-teaching hospital to meet the emergency need.

5. The period of obligation for service will cease at the termination of the present national emergency; the Surgeon General will accept resignations of members of Units 6 months after cessation of hostilities.

6. A commission in the inactive reserve of the U. S. Public Health Service does not prevent a member of an affiliated unit from entering the armed forces; resignation will be accepted for this purpose.

7. Members of affiliated units may wear the authorized lapel buttons which indicate that they have enlisted for emergency service. They are not to wear the uniform until called to active service and need not purchase a uniform unless the possibility of active service is imminent. Uniforms will not be required for brief periods of active service.

Because it is essential for civilian protection, the organization of affiliated units has received approval of the Board of Trustees of the American Medical Association. For the same reason, the Directing Board of the Procurement and Assignment Service has authorized "essential" physicians to accept positions in affiliated units.

Emergency Base Hospitals Under Office of Civilian Defense (Medical Division): California Units

California ultimately will have between 34 to 37 affiliated base hospital units.

REGION IX

(Corrected to date of June 9, 1943.)

CALIFORNIA:

San Diego County General Hospital, San Diego.
 Mercy Hospital, San Diego.
 Collis P. and Howard Huntington Memorial Hospital, Pasadena. (Unit is substantially complete.)
 University of Southern California School of Medicine, Los Angeles.
 College of Medical Evangelists, Loma Linda. (Satisfactory progress has been made.)
 Los Angeles County Hospital (Medical Unit), Los Angeles.
 Hospital of the Good Samaritan, Los Angeles. (Unit is substantially complete.)
 Cedars of Lebanon Hospital, Los Angeles. (Unit is substantially complete.)
 St. Vincent's Hospital, Los Angeles. (Unit has not been formed.)
 Presbyterian Hospital-Olmstead Memorial, Los Angeles. (Satisfactory progress has been made.)
 Queen of Angels Hospital, Los Angeles. (Satisfactory progress has been made.)
 Santa Barbara Cottage Hospital, Santa Barbara.
 Ventura County Hospital, Ventura.
 Sacramento County Hospital, Sacramento. (Unit has not been formed.)
 Highland-Alameda County Hospital, Oakland.
 Samuel Merritt Hospital, Oakland. (Unit has not been formed.)
 University of California School of Medicine, San Francisco. (Unit is substantially complete.)
 Stanford University School of Medicine, San Francisco. (Unit is substantially complete.)
 St. Luke's Hospital, San Francisco.
 St. Mary's Hospital, San Francisco. (Unit has not been formed.)
 Sonoma County Hospital, Santa Rosa. (Satisfactory progress has been made.)
 General Hospital of Fresno County, Fresno. (Satisfactory progress has been made.)
 San Bernardino County Charity Hospital, San Bernardino.
 San Joaquin General Hospital, French Camp, San Joaquin County. (Unit is substantially complete.)
 Santa Clara County Hospital, San Jose. (Unit is substantially complete.)
 Monterey County Hospital, Salinas. (Unit is substantially complete.)

The following hospitals have been invited recently to form units:

San Francisco:
 St. Francis Hospital
 St. Joseph's Hospital
 Children's Hospital
Los Angeles:
 California Lutheran Hospital
Long Beach:
 Seaside Hospital
 Community Hospital
Bakersfield:
 Kern County General Hospital

The Office of Naval Officer Procurement for the northern section of California is in charge of Capt. C. L. Arnold, U. S. N. The Senior Medical Officer is Capt. Philip K. Gilman, U. S. N. R. The office is located at Room 615, 703 Market Street, San Francisco. Telephone: EXbrook 3386, Local 48.

The Naval Office of Procurement for the southern section of California is in charge of Admiral A. Johnson, U. S. N. The Senior Medical Officer is Captain John C. Ruddock, U. S. N. R. The office is located at 411 West Fifth Street, N. W. Corner of Hill, Los Angeles. Telephone: Michigan 8641.

COMMITTEE ON HOSPITALS, DISPENSARIES AND CLINICS

Lack of Enough Hospital Facilities in Southern California Held "Dangerous"

Lack of hospital facilities in the Los Angeles area was described as "dangerous" by Monsignor Thomas J. O'Dwyer yesterday at a public hearing conducted by the Downey subcommittee of the Senate Military Affairs Committee.

Half Enough

The Committee, meeting in the State Building, heard O'Dwyer, Director of Charities and Hospitals, Archdiocese of Los Angeles, estimate that only "one-half the hospital beds needed are available."

"For a city playing a vital rôle in the war effort and located on an exposed coast line to be so inadequately prepared is dangerous," Monsignor O'Dwyer said.

Stressing need for more hospital facilities, he said that in the Los Angeles nonprofit hospitals there is a total of only 2,396 beds and that last April 1,217 persons were denied admittance to the hospitals.

Other parts of the county are even more overcrowded than the city, he said.

Nearly at Capacity

He estimated that on the basis of standards set up by the American Medical Association and American Hospital Association, at least twice the number of beds now available should be available.

Hospitals in this locality are operating at between 93 and 100 per cent capacity every day, Monsignor O'Dwyer said.

Dr. Walter Treadway, medical director in charge of the United States Public Health Service Relief Station in Los Angeles, said the problem was particularly serious in the San Fernando Valley and Huntington Park areas and far short of perfect in San Bernardino County, San Diego County, and Los Angeles County generally.—*Pasadena Post*, June 17.

Hospital Bed Ratio in Los Angeles Is Alarming

Just how critical the shortage of hospital beds in Los Angeles is can readily be seen from a comparison of the number of beds in our nonprofit hospitals with those in other cities.

Such a comparison shows Los Angeles to be at the bottom among other major cities, with 1.4 adult beds in its nonprofit hospitals per 1,000 population. The American Hospital Association recommends three beds for 1,000 population for industrial cities like Los Angeles.

Detroit, approximately the same size as Los Angeles, has 2.5 beds per 1,000, while in St. Louis the figure is 4.1. In Philadelphia the beds per 1,000 number 4.2. San Francisco is far better off than we, with 3.7.

The factor contributing most to the shortage of beds in local hospitals is the great increase which has occurred in our population during the last decade and the inability of our institutions to increase their capacity to keep pace with the population growth.

During the last five years, while our population was growing by 285,000, only 264 beds were added in our nonprofit hospitals. To have accommodated the persons represented in this increase in population alone, 855 beds would be needed.

Another factor contributing heavily to the tremendous increase in the hospital load is the popularization of hospital service. This has come about largely through public education. Not too many years ago the average person knew little about hospitals and looked upon them with a feeling of both awe and fear. Today most people are

familiar with the various types of care which our hospitals can render and eagerly seek this service when in need of it. National Hospital Day and intelligent public relations programs have played an important rôle in acquainting the public with our hospitals.

Medical Care

American Medical Association Tackles a Controversial Problem

The American Medical Association today created a new council to plan for better medical care throughout the nation.

The Council is authorized to study medical plans of all sorts, to suggest policies and to report these to the state and county medical societies which would have the job of putting them into effect.

The new council has no power to go beyond suggesting, but neither has any American Medical Association Council, now or in the past. The actions of these councils, however, always have strongly influenced the practice of medicine throughout the country, and the new council's position promises to be powerful.

Criticism in Past

Criticisms have been made of the American Medical Association for years for failing to propose a plan for improved medical care for the public at large. The new council is taken as an answer to these criticisms.

Recent developments within the American Medical Association, indicating more than one hundred medical group prepayment plans, indicate that instead of one single plan for medical care, there are likely to be several. Each section's needs are different, the doctors find, and each will require modifications in any plan that might be best in some other section. . . .

The Council was established by the American Medical Association House of Delegates, the supreme body of organized medicine, and was instructed to get to work immediately. The Council is responsible only to the House of Delegates.—*San Francisco Chronicle*, June 10.

Hospital Association in Suit Against State Commission

Suit was filed on June 12 by the Pasadena Hospital Association, Ltd., against the California Employment Commission, seeking to recover the \$4,039.28 paid for the first quarter of 1943 as unemployment insurance contributions, plus a 6 per cent interest on that sum.

The hospital sets forth that it is in many ways a philanthropic and nonprofit institution, that some of its departments are agencies of the Community Chest, that many of its facilities and dispensing clinic are provided at cost, and in some instances without charges, and that it has paid the unemployment contributions under protest.—*Hollywood Citizen-News*, June 12.

The Syphilis Rate—Forty-Seven in Each One Thousand

Washington, June 14 (AP).—Congress learned today that in the examination of men, aged 21 through 35, for the armed services, 47.7 of each 1,000 were found to have syphilis, and that the prevalence among Negroes in one Southern State ran to 405.9 in each 1,000.

The figures, based on a study of the first two million selectees examined in forty-four States, were given to the House Appropriations Committee by the Public Health Service.

Dr. Thomas Parran, Surgeon General, said rejections ran to 46,000 in each 1,000,000 men on account of syphilis and 15,000 of each 1,000,000 due to gonorrhea infection.—*San Francisco Chronicle*, June 15.

COUNTY SOCIETIES†

CHANGES IN MEMBERSHIP

New Members (45)

Alameda County (6)

Anderson, Bruce M., *Oakland*
 Cieri, Joseph D., *Oakland*
 Collen, Morris Frank, *Oakland*
 Delanty, Ella Katherine, *Oakland*
 Vedder, Edward B., *Oakland*
 Ward, Willis A., *Berkeley*

Fresno County (1)

Wheeler, Dorothy Fraser, *Fresno*

Lassen-Plumas-Modoc County (3)

Benedict, Hans, *Westwood*
 Bleiberg, Donald Joseph, *Quincy*
 Weiss, Ernest, *Westwood*

Los Angeles County (18)

Bishop, Clifford O., *Los Angeles*
 Brickey, Vernon P., *Long Beach*
 Crum, John David, *Beverly Hills*
 Dillon, Richard, *Los Angeles*
 Elgin, James Carroll, *Los Angeles*
 Fox, Gertrude, *Glendale*
 Gowdy, Ralph A., *Santa Monica*
 Haley, Edgar R., *Santa Monica*
 Irvine, Wendell C., *Beverly Hills*
 Levine, Boris E., *Los Angeles*
 Lindenauer, David, *North Hollywood*
 Mortensen, Martin A., *Los Angeles*
 Shields, Jane, *Los Angeles*
 Snyder, Monica Harnden, *North Hollywood*
 Stevens, Carl F., *North Hollywood*
 Tietz, Esther Bogen, *Arcadia*
 Townsend, Guy Walter, *Hollywood*
 Weinberger, Willard William, *Long Beach*

Orange County (1)

Carlson, Verne W., *Orange*

San Bernardino County (1)

Gladden, Ralph G., *Walla Walla, Washington*

San Francisco County (14)

Banks, Harry B., *San Francisco*
 Campion, Gwendolyn M., *San Francisco*
 Dickson, Owen C., *San Francisco*
 Diller, Theodore, *San Francisco*
 Freed, Solomon Charles, *San Francisco*
 Hughes, Clara L., *San Francisco*
 Klinghoffer, Kalmen A., *San Francisco*
 Lange, Jack D., *San Francisco*
 Madlen, Jr., Leo Smith, *San Francisco*
 Rourke, Anthony J. J., *San Francisco*
 Saunders, William W., *San Francisco*
 Shaw, William Francis, *San Francisco*
 Traut, Herbert F., *San Francisco*
 Yellen, Daniel, *San Francisco*

San Luis Obispo County (1)

O'Reilly, Francis F., *San Luis Obispo*

Transfers (8)

Cohen, Peter, from Santa Barbara County to San Francisco County.

Graham, Harold L., from San Luis Obispo County to Santa Clara County.

Lewis, Joseph D., from Santa Barbara County to Yuba-Sutter-Colusa County.

Mollath, A. L., from Santa Barbara County to San Diego County.

Nicholas, C. Z., from Santa Barbara County to San Diego County.

Patton, William G., from San Bernardino County to Los Angeles County.

Wayland, Raymond T., from Los Angeles County to Santa Clara County.

Wood, Charles M., from Placer-Nevada-Sierra County to Sacramento County.

In Memoriam

Brown, Thomas Hartwell. Died at Woodland, May 17, 1943, age 61. Graduate of the University of Toronto Faculty of Medicine, 1906. Licensed in California in 1910. Doctor Brown was a member of the Butte-Glenn Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✦

Carroll, Robert Lide. Died at Los Angeles, June 7, 1943, age 48. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1926. Licensed in California in 1932. Doctor Carroll was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✦

Currie, Albert Harlan. Died at Los Angeles, April 19, 1943, age 57. Graduate of the Bennett College of Ecl. Med. and Sur., Chicago, 1911. Licensed in California in 1911. Doctor Currie was a member of the Los Angeles County Medical Association and the California Medical Association.

✦

Deacon, George. Died at Pasadena, May 24, 1943, age 87. Graduate of the Rush Medical College. University of Chicago, 1885. Licensed in California in 1887. Doctor Deacon was a retired member of the Los Angeles County Medical Association, the California Medical Association, and an Affiliate Fellow of the American Medical Association.

✦

Petersen, Henry Christian. Died at Stockton, May 17, 1943, age 67. Graduate of the University of Illinois College of Medicine, Chicago, 1905. Licensed in California in 1906. Doctor Petersen was a member of the San Joaquin County Medical Society and the California Medical Association.

✦

Priestley, William Fletcher. Died at Oakland, May 29, 1943, age 58. Graduate of the Cooper Medical College, San Francisco, 1912. Licensed in California in 1912. Doctor Priestley was a member of the Alameda County Medical Association and the California Medical Association.

✦

Rethers, Charles Albert. (Lt., M. C., U. S. N. R.) Died near Tia Juana, Mexico, May 26, 1943, age 40. Graduate of Creighton University School of Medicine, Omaha, 1933. Licensed in California in 1935. Doctor Rethers was a member of the San Francisco County Medical Society and the California Medical Association.

✦

Robbins, Arthur Colby. Died at Ensenada, Baja California, April 21, 1943, age 40. Graduate of the College of Medical Evangelists, Loma Linda, 1923. Licensed in California in 1923. Doctor Robbins was a member of the Orange County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

† For roster of officers of component county medical societies, see page 4 in front advertising section.

CALIFORNIA PHYSICIANS' SERVICE[†]

Beneficiary Membership

Commercial (May, 1943).....	46,000
Rural Health Program	5,000
War Housing Projects (approximate).....	40,342
Marin	5,488
Los Angeles	5,811
San Diego	13,320
Vallejo	14,723
San Francisco	1,000
Total	91,342

California Physicians' Service has given notice to the Regional Office of the Federal Public Housing Authority that it is our intent to cancel the existing contract of the medical plan in housing projects unless satisfactory readjustments can be made to put the plan on a sounder financial basis.

This has become necessary because of the revealing information contained in the statistical analysis of the first six months of operation. These figures show an overwhelming cost in relation to obstetrical service (35 per cent of total gross income). They also show a cost much greater than anticipated for surgery in relation to "back log" or neglected conditions.

Just what specific adjustments will be made, it has not been agreed upon at this time. Careful consideration is being given to the elimination of parts of obstetrical service and elective surgery, increase in rates and the effect of these on the membership. We believe that a satisfactory solution can be obtained.

In the interim the load of carrying the program will fall upon the shoulders of the medical profession. Since the California Physicians' Service has never had any capital other than the support of the profession, we must necessarily call upon this resource during the coming months.

In our discussions to date, it is clearly evident that the Housing Authority *will* have medical care in the housing projects. They sincerely desire that this be provided through organized medicine of this state. However, this is not the only means by which such service may be obtained.

California Physicians' Service has been through many administrative crises before, which have gradually been solved. We believe from the pure business point of view we can also solve this one. (We have caught the symptoms of danger very early.) This emergency program of the medical profession must be looked upon as a contribution to the war effort. Its beneficial effect on the morale and health of thousands of migrant war workers is beyond dispute.

We who are doing our best to solve the terrific problems of the most complicated nature must assume that the profession wants this program to continue. We also must assume that the profession is supporting us, and will continue to support us as we go through another violent phase in the history of California Physicians' Service.

Note: For comment concerning California Physician's Service and Mannix Report, see Minutes of California Medical Association Council and Editorial Department.

[†]Address: California Physicians' Service, 153 Kearny Street, San Francisco. Telephone EXbrook 0161. A. E. Larsen, M. D., Secretary.

Copy for the California Physicians' Service department in the OFFICIAL JOURNAL is submitted by that organization.

For roster of nonprofit hospitalization associates in California, see in front advertising section on page 3, bottom left-hand column.

(Copy of Report of June 22 to Professional Members)

CALIFORNIA PHYSICIANS' SERVICE

153 Kearny Street
San Francisco, California
743 South Grand View Street
Los Angeles, California

Dear Doctor:

Due to the large number of requests from California Physicians' Service professional members, we are enclosing a folder which describes our surgical and hospital coverage for employed groups whose annual family income does not exceed \$3,000. We wish to thank the many professional members who have given these folders to their patients. Through your help, we have recently been able to place this service in several large groups. If you desire, we shall be glad to send you more of these folders.

There is a great deal of discussion between the administrative members, trustees of California Physicians' Service, and the Council of the California Medical Association regarding the many problems that are beginning to make themselves felt in the State as the result of the shortage of doctors and the increase in population. All of these discussions have taken on added urgency because of the recent introduction of the Wagner Bill for compulsory health insurance on a national basis. It is to be noted that the introduction of the Wagner Bill was strategically timed to antedate the recent meeting of the American Medical Association. At this meeting, for the first time, there has been official recognition of the place that medical service plans are taking in anticipation of such inevitable legislation. To this end the House of Delegates of the American Medical Association established a council to study and evaluate existing plans in the United States. It is to be pointed out to you that the two most significant plans in the United States are Michigan Medical Service and the California Physicians' Service.

Financial operations for the month of April are as follows:

Dues collected	\$51,028.82
Professional member registration fee	80.00
	<hr/>
	51,108.82
Cost of administration	11,993.00
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Available for April services.....	39,115.82
X-ray and laboratory on hospitalized patients.....	3,079.44
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Available for remaining professional services....	36,036.38
20,086.6 units of service at \$1.75.....	35,151.55
	<hr/>
Transferred to Unit Stabilization Fund.....	884.83
Previous balance in fund.....	29,622.30
	<hr/>
Total Unit Stabilization Fund.....	\$30,507.13

A. E. LARSEN, M. D.

Executive Medical Director.

June 22, 1943.

Venereal Disease Prophylaxis: Among Women

Dr. J. C. Geiger, Director of Public Health, announced the opening of the San Francisco City Separate Women's Court, located in the Health Center Building at 135 Polk Street, San Francisco. The Separate Women's Court is established to meet the problem of the professional prostitute, streetwalker, and other sexually promiscuous women who are arrested by the Police Department.

Prior to the opening of the Separate Women's Court these women were housed in the women's section of the San Francisco City Prison. During their confinement first offenders were placed with habitués and frequently with other criminals, thus affording an excellent opportunity for promoting the maladjustment of the first offender.

MISCELLANY

Under this department are ordinarily grouped: News Items; Letters; Special Articles; Twenty-Five Years Ago column; California Board of Medical Examiners; and other columns as occasion may warrant. Items for News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings†

California Medical Association. Place and date of the 73rd Annual Session, to be held in 1944, to be announced later.

American Medical Association. Place and date of 1944 Annual Session to be announced later.

The Platform of the American Medical Association

The American Medical Association advocates:

1. The establishment of an agency of Federal Government under which shall be coordinated and administered all medical and health functions of the Federal Government, exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health, and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

Medical Broadcasts*

The Los Angeles County Medical Association:

The following is the Los Angeles County Medical Association's radio broadcast schedule for the current month, all broadcasts being given on Saturdays.

KFAC presents the Saturday programs at 8:45 a. m., under the title "Your Doctor and You."

In July, KFAC will present these broadcasts on the following Saturdays: July 3, 10, 17, 24 and 31.

The Saturday broadcasts of KECA are given at 10:45 a. m., under the title "The Road of Health."

"Doctors at War":

Radio broadcasts of Doctors at War by the American Medical Association in cooperation with the National Broadcasting Company and the Medical Department of the United States Army and the United States Navy are on the air each Saturday at 2 p. m., Pacific War Time.

† In the front advertising section of *The Journal of the American Medical Association*, various rosters of national officers and organizations appear each week, each list being printed about every fourth week.

* County societies giving medical broadcasts are requested to send information as soon as arranged.

Pharmacological Items of Potential Interest to Clinicians*:

1. **Reviews:** Really hot, says M. Shimkin, is J. P. Greenstein's survey of tumor enzymology (*J. Nat. Cancer Inst.*, 3:419, 1943). Then there's N. J. Berrill's study of malignancy in relation to organization and differentiation, and A. Dorfman's review of pathways of glycolysis (*Physiol. Rev.*, 23:101, 124, 1943). Also note C. Monge's survey of chronic mountain sickness (*Ibid.* p. 166). W. Raab reviews the pathogenic significance of adrenalin and its relatives for heart muscle. (*Exp. Med. & Surg.*, 1:188, 1943). H. C. Clark goes over recent work on prophylaxis and treatment of malaria (*J. Nat. Malaria Soc.*, 1:113, 1943). J. N. Davidson offers brief summary with big bibliography of "wound hormones" (*Edin. Med. J.*, 50:70, 1943). A. Lipschitz summarizes his studies on endocrine aspects of antitumoral autodefense (*Rev. Canad. Biol.*, 2:92, 1943). L. Brouha & Co. survey work on "step test" to measure physical fitness for hard muscular labor (*Ibid.*, p. 86). L. W. Shaffer reports on present status of intensive arsenotherapy of early syphilis (*Ven. Dis. Info.*, 24:108, 1943). E. W. Thomas and G. Wexler do likewise (*Arch. Dermat. Syph.*, 47:553, 1943).

2. **Symposia:** Pleasant one on impetigo (*Lancet*, 244: 544, 547, May 1, 1943). Important one on scientific proof and relations of law and medicine (*Ann. Int. Med.*, 18: 445-697, 1943). Interesting one on stuttering in remarkable new journal *The Nervous Child* (2:79, 1943).

3. **Shock:** In elaborate studies on traumatic shock, J. Fine, A. Seligman & Co. find that oxygen has no value in hemorrhagic shock (*J. Clin. Invest.*, 22:265-305, 1943). F. L. Engel, M. G. Winton and C. N. Long show that hemorrhagic shock causes liver and tissue injury from anoxia with increased proteolysis and lactate and pyruvate accumulation (*J. Exp. Med.*, 77:397, 1943). G. F. Kamen (*Proc. Soc. Exp. Biol. Med.*, 52:363, 1943) suggests that lipid breakdown products like acrolein may have some causative relation to shock. J. P. Levinson and H. E. Essex (*Ibid.*, p. 361) show that peripheral vasoconstriction occurring in shock is not dependent on an intact nerve supply. P. L. Mollison discusses hemolytic transfusion reactions (*Brit. Med. J.*, 2:529, May 1 and 8, 1943).

4. **A Few Books:** C. C. Thomas (Springfield, Ill.) publishes C. L. Gemmill's *Physiology in Aviation*, an inexpensive and brief item. J. B. Sumner and G. F. Somers issue *Chemistry and Methods of Enzymes* (Academic Press, N. Y.). G. L. Walls writes on *The Vertebrate Eye and Its Adaptive Radiation* (Cranbrook Inst. Science, Bloomfield Hills, Mich.). J. H. Masserman discusses *Behavior and Neurosis* (Univ. Chicago). Oxford issues E. J. Bowen's *Chemical Aspects of Light*. C. C. Thomas (Springfield, Ill.) also publishes J. A. Reyniers' *Micrurgical and Germ-Free Methods: Their Application to Experimental Biology and Medicine*. And here's another salute to Herbert Evans—for whose 60th birthday the University of California publishes a special volume of scientific tribute. Stanford Press will issue A. C. Reed's *Tropical Medicine*.

5. **Alia:** H. A. McGuigan's ideas on mass hysteria hide a pertinent point (*J. Asso. Am. Med. Col.*, 18, 182, 1943). Why have scientific periodicals—read *Life!* And did you note the article about our L. L. Lumsden in *Satevepost?* Of course, development of resistance to penicillin is noted

* These items submitted by Chauncey D. Leake, formerly Director of U. C. Pharmacologic Laboratory, now Dean of University of Texas Medical School.

(L. H. Schmidt and C. L. Sesler, *Proc. Soc. Exp. Biol. Med.*, 52:353, 1943). M. R. Sapirstein finds glutamic acid controls ammonium ion enzymatically in brain and thus may control epileptic convulsions (*Ibid.*, p. 334). C. Gutierrez-Noriega notes metrazol convulsions due to summation of local stimuli augmenting direct action on the drug on motor neurones: there is no evidence for a convulsant center (*J. Neuropath. Exp. Neurol.*, 2:132, 1943). J. J. Pfiffner & Co. isolate antianemic factor from liver in crystalline form (*Science*, 97:404, 1943). B. C. McIvor and S. P. Lucia describe method of getting anti-Rh serum (*Proc. Soc. Exp. Biol. Med.*, 52:293, 1943).

Doctors of Medicine as Others See Them.—During recent years, the medical profession and its work have been much misrepresented in certain lay publications. A perusal of editorial comments appearing in some California newspapers, in which appreciation is expressed for the healing and altruistic work of physicians, should therefore be of interest.

The above item, with some quotations, appeared in CALIFORNIA AND WESTERN MEDICINE (July issue, pages 108-109; October, pp. 269-270; November, pp. 287 and 331-332; January, pp. 49 and 50; February, pp. 92-93; April, pp. 255-257; and May, pp. 305-308. More recent items follow:

THE DOCTOR IS RATIONED

Recently Dr. Maxwell Lapham of the War Manpower Commission announced in Washington that during this year approximately 12,000 physicians would be called into the armed forces, leaving about 80,000 to care for accidents and ailments on the home front. This, he ventured, would reduce the ratio of doctors to one for every 1,500 persons, "the outer limit of safety from the standpoint of public health."

Some communities, nevertheless, already find themselves beyond that limit of safety, and everywhere doctors are scarce and their time precious. The problem is by no means separate from the public responsibility. Action must be taken to ease the strain, action by individuals, as a safeguard to personal health and as a war time obligation.

First it is imperative at once to impose on ourselves a voluntary rationing of the doctor's time as far as our own demands on him are concerned. An average adult can learn to identify danger signs that actually require a doctor on the spot as well as he can recognize the slight symptoms he can handle himself. As a matter of fact, few medical ailments cannot afford to wait a short time for diagnosis, according to the eminent Dr. Thomas Masters, who points out, too, that fears rise inordinately at night, necessitating many useless calls when hard working physicians desperately need their rest.

Finally, for the sake of public health and the health of our own loved ones, it is wise, for the duration of doctor rationing at least, to learn and remember the common rules that keep human beings well, and to keep our nerves steady and common sense in command if unpreventable illness does strike.—*Sacramento Daily Recorder*, May 12.

* * *

MATCH THIS RECORD

More than 28,000 physicians volunteered their services without pay to the Selective Service boards. More than 40,000 physicians gave up their careers in civilian practice to serve with the armed forces. This directing board of the Procurement and Assignment Service for Physicians, and its many representatives throughout the nation, serve without one cent of remuneration. The hundreds of physicians on the consultant committee of the Division of Medical Science of the National Research Council, and in the office of Research and Development, contribute time and income without one cent of remuneration. Throughout

the nation, thousands of doctors furnish countless services in connection with civilian defense, without one cent of remuneration. It would be interesting to know what other trade or profession can match this record of public service.

And yet proposals are made to throw American medicine into the political arena, and level it off to the standards prevailing in European countries where experiments in socialized medicine have utterly failed to produce the health records and benefits to the general public which are the rule rather than the exception in the United States. Fortunately for the people of this country, such efforts seem to have failed.

American medicine is marching ahead unselfishly and scientifically in its determination to maintain for our armed forces and the people at home the highest medical standards in the world—not for this year, or next year, but for every year.—*Hanford Sentinel*, May 24.

* * *

FACTS ABOUT SOCIALIZED MEDICINE

We believe it would, indeed, be profitable for those who advocate governmental direction of medical aid and who know little or nothing about socialized medicine, to stop and consider the plan as now operated in England. By and large, the medical profession of the United States have done and are doing a fine job. It was our privilege several years ago at an editorial round-table discussion, to refute statements made by Professor May of the University of California, who spoke on the subject at Stanford University.

To substantiate our thesis we wish to cite a few facts from England that eloquently and factually relate the story of compulsory health insurance. Under the British system of health insurance a physician has a panel of 1,000 to 2,500 patients at \$2.25 each per year. He may have to see 100 patients a day. Frequently as many as sixty persons must be seen in his office in two hours—two minutes per patient, including paper work. There is no time for adequate treatment. If a panel physician keeps patients waiting too long, they report him to his superiors. Unlike American physicians, the panel physician in England rarely has the time or the energy to study, engage in research, attend medical meetings or take refresher courses.

It is easy to see why doctors oppose schemes to emasculate the American medical system. It has its shortcomings, but fundamentally it is the most efficient, far-reaching system yet devised. Infinitely more important, it is a system which inspires initiative and progress. Within its framework doctors are free individuals. Tomorrow, next week, next year, as the future rolls into the present, new techniques and new cures will come from the imaginative, probing minds of American medical men. It would be calamitous to freeze medicine into a compulsory socialistic mold that would kill the souls of these men.—*Isleton Journal*, May 21.

* * *

THE RATIONING OF OUR DOCTORS

Reading in news columns of the fiftieth anniversary of the organization of the Riverside Medical Society calls to mind the fact that this year approximately 12,000 physicians of the nation would be called into the armed forces, leaving about 80,000 to care for accidents and ailments on the home front.

This would reduce the ratio of doctors to one for every 1,500 persons, "the outer limit of safety from the standpoint of public health."

California Tuberculosis Association

The California Tuberculosis Association is the state organization which administers in California the general policies and principles of the National Tuberculosis Association. The California Tuberculosis Association is a

federation of sixty-two local associations; it is democratically controlled by representation proportionate to the funds raised by each of the locals. The California Tuberculosis Association receives 16 per cent of the gross seal sale for the first \$10,000 raised, 11 per cent for the next \$10,000, and 7½ per cent for all over \$20,000.

Each local association receives in return many of the services offered by the California Tuberculosis Association. The state office acts as a clearing house for supplies and for ideas. One of the main functions of its staff is to give assistance to the smaller local associations in this state which do not have sufficient funds to maintain trained tuberculosis health workers.

All local associations operate under "Authorized Forms of Tuberculosis Work" as approved by the National Tuberculosis Association. Permissible activities are health education, cooperation with other agencies, research and study, case-finding demonstrations, and organization and administration.

American Medical Association Will Meet in San Francisco in 1946.—Chicago—AP—San Francisco yesterday was selected for the 1946 meeting of the American Medical Association, the war permitting.—Sacramento Union, June 10.

Lane Medical Lectures.—The Lane Medical Lectures are now generally recognized as an international institution. The imposing array of illustrious lecturers from many foreign lands, as well as this country, shows this rather conclusively. This result happily fulfills the vision of the founder, the late Dr. Levi Cooper Lane, also the founder of Cooper Medical College, now the Stanford School of Medicine.

It was Doctor Lane's idea to bring leading medical scientists from Europe, where great advances were then being made, to California and the West rather than to send Western physicians there. Above all, he believed the personal contact and inspiration of these leaders was most valuable for his colleagues and his institution. Not only has this aim been amply fulfilled, but the high quality and the influence of the lectures as sources of information and of provoking thoughts and ideas for research and discoveries is attested by numerous references to them in the literature of medicine.

In a period close to fifty years since the lectures were established, almost every branch of medical science has been represented by outstanding experts, discoverers, or investigators. The Stanford medical faculty, always mindful of the aims and desires of the founder, intend to maintain these lectures on the highest plane possible as a means of promoting the value and influence of medical science everywhere.

The last eight series of the Lane Medical Lectures have been published by the Stanford University Press, Stanford University, California.—The Stanford Colophon, April, 1943.

United States Naval Hospital at Mare Island Entertains Sonoma, Solano, Marin and Napa County Medical Societies.—The United States Naval Hospital at Mare Island, through the courtesy of the Medical Officer in Command, Capt. J. P. Owen (MC), U. S. N., and Capt. Frank W. Ryan (MC) U. S. N., Executive Officer, on Tuesday evening, June 8, 1943, had as guests members of the Sonoma, Solano, Marin, and Napa County Medical Societies.

This conjoint dinner, at which colleagues who are attached to the United States Naval Hospital were the hosts, has become an annual event and is looked forward to with increasing interest by all who have had the opportunity to attend.

It is particularly interesting to note that this expression of coöperation comes from physicians who are in military service, the extension of courtesy being to colleagues who are in civilian practice.

An excellent dinner was served, after which the meeting was adjourned to the theatre building, where the scientific program was presented by staff members of the Naval Hospital.

In the program were listed the names of the following staff members.

Capt. J. P. Owen (MC) USN, Medical Officer in Command.

Capt. Frank W. Ryan (MC) USN, Executive Officer.

Capt. R. I. Longabaugh (MC) USN (Ret.), Gas and Security Officer.

Capt. C. G. Hines (MC) USN, Chief of Psychiatric Service.

Commander E. F. Holman (MC)V(S) USNR, Chief of Surgery.

Commander E. L. Markthaler (MC)V(S) USNR, Chief of Medicine.

Commander J. W. Thompson (MC)V(S) USNR, Chief of Eye, Ear, Nose and Throat.

Lt. Comdr. P. R. Yeeks (MC)V(S) USNR, Chief of X-ray Service.

Lt. Comdr. B. E. Konwaler (MC)V(S) USNR, Chief of Laboratory Service.

Lt. Comdr. J. W. McPheeters (MC)V(S) USNR, First Lieutenant (Maintenance Officer).

Lieut. E. F. Aron (MC) USN, Assistant Administrative Officer.

Lieut. J. R. Ayer (HC) USN, Hospital Corps Officer.

Lieut. (jg) G. E. Harris (HC) USN, Commissary Officer.

Chief Pharmacist G. R. Gibson (HC) USN, Personnel Officer.

Pharmacist A. V. Watson (HC) USN, Property and Accounting Officer.

The program of the evening follows:

Demonstration of Patients with Stader Splints.

Film—Application of Stader Splint.

Demonstration of Patients with Pylon and Artificial Leg—Dr. Douglass Toffelmier.

Demonstration of Patients with Wax Treatment for Burns—Dr. Ralph G. Pendleton.

"The War Neuroses"—Dr. F. H. Smith.

Files:

(a) Excision of Brachial Aneurism—Dr. E. F. Holman.

(b) Hospital Views, Presentation of: War Decorations. The Surgeon General's Visit.

Doctor Toffelmier presented a series of patients on whom the Stader splint had been used. Different types of the splint were shown, its advantages as regards rotation, lengthening and tilting being pointed out, and its modes of applications indicated by demonstration and also later on the screen.

This splint is not yet available on the open market, but at the Mare Island Hospital has been much used. Doctor Toffelmier explained that with the splint it is necessary perhaps to set more of the fracture by hand, but once the fragments are in place and the splint applied, the portion involved is in solid position. The splint is probably better adapted for hospital than for field service. Even in secondary closures, the splint has been found to be of much value. With its use, there is much greater possibility of the patient becoming either fully or partially ambulatory.

Doctor Toffelmier also presented patients to demonstrate the use of Pylon and artificial legs. Mention was made of the adaptability of this procedure even when stumps are short. Method of securing good stumps was described.

Dr. Ralph G. Pendleton discussed in some detail a wax treatment for burns which has been developed in good part at the Mare Island Hospital. He referred to local and general reactions in relation to burns of different degrees and methods of cleansing, and procedures in preparation for the use of the wax combination which is sprayed on. A special advantage of the procedure is that it does not

need a trained person to apply it. The hours saved in care of burn cases is very great. The treatment can precede or follow other procedures and the application of the wax not only alleviates pain and local distress, but promotes early motion of the parts involved, and aids in the prevention of contractures. The mixture is quite inexpensive.

Patients and films completed the demonstration.

Dr. F. H. Smith, the third speaker, gave an illuminating address concerning war neuroses, calling attention to some of the new types of such that have come under observation due to the present-day methods of warfare. It is not surprising that when men are subject to bombardment day and night, with little opportunity for rest and all the ordinary routine of living done away with, and under conditions made more complicated by rain, heat and diseases such as dysenteries, malaria, they crash up mentally and physically. In some places, as at Guadalcanal, these conditions were intensified by a feeling of helplessness and the impression that they would be left alone and could not be rescued.

The symptoms were briefly mentioned and tentative figures in incidence of such breakdowns were given.

Also discussed was the prognosis in many of these patients, not only as regards return to normal mental and physical health, but in relation to capacity to again take up the responsibilities of military life, either full or limited, or civilian activities.

The program was completed by the presentation of films taken at the Mare Island Hospital, the same being interspersed with comments by the Medical Officer in Command, Capt. J. P. Owen, who pointed out the importance in an institution such as the Mare Island Hospital, to maintain morale and proper esprit de corps.

Tribute Paid to Doctor Zeiler.—Approximately 100 of his colleagues and friends honored Dr. A. Herman Zeiler, pathologist, at a dinner at the University Club sponsored by the executive medical board of the California Hospital last night.

Dr. Benjamin H. Hager, chairman of the staff of the hospital, was chairman of the meeting, and Dr. E. J. Cook, emeritus chairman of the staff, was toastmaster. Speakers included Doctors John W. Grossman, Howard F. West, Donald G. Tollefson, E. Vincent Askey and E. H. Wiley.

Doctor Zeiler started a laboratory here in 1911. In 1917 he became pathologist for the California Hospital.*—*Los Angeles Examiner*, June 8.

New Drug—Penicillin.—*The Journal of the American Medical Association* recently described penicillin, a newly used drug, as "far superior to any of the sulfanilamides" in treating infected wounds and burns.

Because of production difficulties, the *Journal* said, use of the drug will be limited almost entirely to the armed forces for the present.

The drug was first used by the Army six weeks ago when arrangements were made by the surgeon-general for clinical tests at Bushnell General Hospital, Brigham City, Utah.

"Results have been so encouraging," the *Journal* reported, "that plans now are in process for undertaking similar wound studies in ten general army hospitals and venereal disease studies in six. A similar though less extensive plan will be pursued by the navy."

Penicillin, which was discovered in 1929 by Alexander Fleming in London, is made from a mold, the *Journal* said. —*Bakersfield Californian*, May 20.

* Many friends of Doctor Herman Zeiler will regret to learn that his death took place on the morning of Thursday, July 15.

He was buried from the Church of the Reformation in Forrest Lawn Cemetery on Monday, July 19, 1943.

New Treatment Is Found for Burns.—A new and simple paraffin wax spray for treatment of burns sustained by military personnel was described today in the *Journal of the American Medical Association*.

Lt. Com. Ralph C. Pendleton, U. S. N. R., in an article discussing the treatment which he developed describes the method as "the paraffin wax open air treatment."

Doctor Pendleton explained:

"The present global war has resulted in so many serious burns occurring en masse that surgeons face a challenge to devise some simple method of treatment which will be effective, humane and simple enough for application by inexperienced assistants to overworked doctors and nurses."

The treatment consists in spraying medicated paraffin on the burned parts of the body, leaving the injured sections free of cumbersome bandages and open to the air.

Using this method there is no need for cleansing or pruning the dead tissues from the burned area before applying the spray.

No gauze is needed because the wax itself serves as a dressing, according to Doctor Pendleton. It checks pain promptly, the author said, and, because it permits early free motion of injured members, prevents numerous deformities that have resulted from other methods of early treatment.

Riverside Doctors Celebrate Fiftieth Anniversary.—Fiftieth anniversary of the organization of the Riverside Medical Society was commemorated on May 13 at a special meeting of the society for which about 100 members and guests gathered for dinner at Victoria Country Club.

Dr. Bon O. Adams acted as master of ceremonies during the program which included reading of minutes of the society for May 13, 1893, by Dr. F. A. Veitch, and reminiscences about older members of the organization by Dr. William Wallace Roblee. Tribute to Doctor Roblee and the late Dr. C. Van Zwahlenburg was voiced by Dr. T. A. Card, their associate.

Gold-headed canes, traditional gifts in recognition of long service to the society, were presented to Doctor Adams, Dr. C. W. Girdlestone and Dr. R. R. Root of Corona. Doctor Roblee had received his some time ago. Dr. W. E. Gardner made the presentations.

Special guests were Dr. Clarence G. Toland of Los Angeles, who told of his father, Dr. M. R. Toland, pioneer San Jacinto physician; Dr. Fred D. West of Beaumont and Dr. Alan Bramkamp of Banning, who spoke on Dr. John C. King, early member of the society who is now past 90 and resides in Pasadena and from whom a letter to the society was read; Mrs. W. B. Payton, Mrs. Arthur L. Brown, Mrs. W. B. Wells and Mrs. H. J. Wickman.

Dr. H. W. Naeckel was chairman of arrangements for the anniversary fête which closed with gay nineties skits presented by the Community Players.—*Riverside Press*, May 14.

Weil's Disease (Leptospirosis).—The Los Angeles City Health Department recently brought to the attention of the physicians of Los Angeles two recent deaths from Weil's Disease of the icterohaemorrhagiae type, contracted in the city of Los Angeles. The department bulletin stated that there are two types of Weil's Disease: the first is caused by *L. icterohaemorrhagiae* and is contracted probably from the feces and urine of rats; the second, *L. canicola*, is contracted from dogs and cats. It has also been reported as being contracted from infected pork. The incubation period is approximately ten days. The organism usually enters through skin abrasions, although the gastrointestinal tract, nasal mucous membranes, and the conjunctiva have all been suggested.

The onset is acute, with a high continuous fever during the first few days. There is headache, vomiting, diarrhea,

and frequently a dry tongue with characteristic red edges. The conjunctiva is injected, the throat is frequently sore, rheumatic pains are common, and jaundice occurs in about 50 per cent of the cases. There may be a relapse at the end of three weeks. The mortality in the United States is about 12 per cent.

When jaundice occurs, differential diagnosis usually has to be made between Weil's Disease, Catarrhal Jaundice, Acute Yellow Atrophy of the Liver, and Yellow Fever. When jaundice does not occur, the differential diagnosis becomes much more difficult. Diagnosis is made by blood serology and by isolation of the organism from urine and blood. Blood serology does not become positive until around the third week.

Sulfa drugs and neosalvarsan are of no proved value in treatment. Sodium bismuth tartrate, intravenously, has been successful in some cases, as has been the use of hyper-immune horse serum. The control consists of the proper care of swimming pools, adequate rat proofing, and the proper handling of urine from recovered patients.

Nurses Fight for More Pay.—The State Nurses' Association, recently authorized by its members to act as their collective bargaining agent with hospitals, has called for a United States Conciliation Service mediator to help it in its wage-increase demands on California hospitals.

The nurses want \$155 a month base pay for registered nurses doing regular staff work. They said some now get as low as \$115.

If the conciliator is unable to effect an agreement, the case is to go to the War Labor Board for an order, association officials said.

Address by Commander Emile Holman.—An address on "Changing Patterns in Medical Care" was delivered by Com. Emile Holman, M. C., chief surgeon at the Mare Island Naval Hospital and head of the Stanford department of surgery, at the annual dinner and initiation of the Stanford chapter of Phi Beta Kappa on May 26.

Dinner was served at 6 p. m. in the Stanford Union. Initiation of the seventy-five new members and election of officers was conducted at that time. Commander Holman spoke at 8 p. m. in the auditorium of the Education Building.

Commander Holman is an alumnus of Stanford, where he was elected to Phi Beta Kappa in 1911. He holds degrees from Stanford, Oxford, and Johns Hopkins universities. He was a Rhodes Scholar at Oxford from 1914 to 1917 and has taught at Johns Hopkins, Harvard, Western Reserve and Stanford.

A member of the American College of Surgeons, he is the recipient of various medical honors, including the Medaille de Roi Albert in 1918, when he was a member of the Committee for Relief of Belgium.—*Palo Alto Times*, May 26.

Board Names Health Officer of Los Angeles County.—Dr. H. O. Swartout yesterday was officially appointed County Health Officer by the Board of Supervisors to succeed Dr. W. L. Halverson, who resigned the position to become director of the State Department of Public Health.

Doctor Swartout has been acting County Health Officer for the last six months while Doctor Halverson was on a leave of absence which expired last Tuesday.

Prior to becoming acting head of the Health Department, Doctor Swartout was director of the bureau of preventable diseases in the department. He has had a wide experience in the medical field and holds a degree from Yale University as doctor of public health.—*Los Angeles Times*, June 18.

On Civilian Defense.—Operations Letter No. 131 from James M. Landis, Director of the Office of Civilian Defense, Washington, D. C., issued June 12, 1943, under the caption "The Health Department in Civilian Protection." Operations Letter No. 131 has been issued to clarify health department functions in civilian protection. Other material outlining technical operations of the health department in event of air raids or other wartime disaster is under preparation.

Infantile Paralysis.—A project which will make The National Foundation for Infantile Paralysis the only complete central, authentic source of information on infantile paralysis in the world was recently announced by the Foundation.

A complete bibliography of all scientific literature that ever has been published pertaining to infantile paralysis is being compiled by the Foundation, and is expected to be ready for publication in book form in the early part of 1944. The first volume will contain a record of all scientific material on poliomyelitis published in the world up to the end of 1943. Subsequently, the data will be kept up to date by publication of annual supplements. Brief abstracts of the more important articles will be included in the bibliography to be published by the Foundation, 120 Broadway, New York.

American Board of Otolaryngology.—An examination of applicants for the American Board of Otolaryngology will be held in Los Angeles on February 2, 3, 4, 5, 1944. Applications must be filed with Dr. Dean M. Lierle, Secretary-Treasurer, University Hospital, Iowa City, Iowa, by November 1, 1943.

Visiting Nurses Ease Medical Care Shortage.—As a step toward combating the threat to public health feared because of the induction of thousands of doctors and nurses into the armed forces, the American Red Cross has launched visiting nurse programs in several war-swollen communities on the Pacific Coast.

Reports on their pioneering indicate success and is already rewarding this effort to halt the possible "slow deterioration" in the nation's health that has been forecast as the probable result of acute shortages in medical care.

Vallejo, California, and Bremerton, Washington, rapidly growing naval construction centers, are outstanding examples of communities facing serious problems as the result of simultaneous loss of medical power and multiplication of population. In both cities, employment of visiting nurses by the Red Cross has sharply reduced the demands upon remaining physicians and hospital facilities. These nurses in many cases can make patients' calls upon doctors unnecessary or at least greatly reduce the number. They work in close coöperation with welfare and other official agencies.

In Spokane, Wash., and twenty-four smaller communities in the Mid-West and Pacific area, similar programs have been launched.

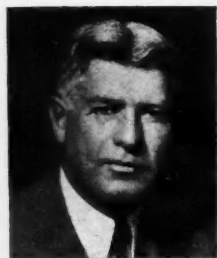
Nurse Shortage Acute, Part-Time Jobs Offered.—The shortage of nurses at the General Hospital has become so acute that part-time jobs to housewives and other women not employed full time have been offered, to work as nurse auxiliaries, it was announced on June 6 by Arthur J. Will, Director of County Institutions.

The half-time employment will pay \$65 to \$70 per month on a per diem basis, it was said. Women between the ages of 18 and 45 who have had a high school education are eligible to apply.

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MR. JOHN HUNTON
Executive Secretary

* These photographs appeared on the place cards of the Dinner to President William R. Molony, Sr., at the seventy-second annual session of the California Medical Association, in Los Angeles, May 2, 1943.

MEDICAL JURISPRUDENCE[†]

HARTLEY F. PEART, ESQ.
San Francisco

Malpractice: Sufficiency of Evidence to Sustain Judgment for Plaintiff; Degree of Care Required of a Specialist

In *Sansom vs. Ross-Loos Medical Group*, 57 A.C.A. 547, decided March 8, 1943, by the California District Court of Appeal, the facts were these:

When the plaintiff was fourteen years old his arm was broken as the result of a collision between the bicycle on which he was riding and an automobile. He was taken by his parents to the defendants for the purpose of having the broken bone set and treated. This medical service was rendered by several different doctors at different times. They were all members of, or employees of, a partnership group of medical men operating a clinic. The humerus was broken in the upper part of the arm in such manner that the two broken ends of the shaft slipped past each other.

The first physician to treat the boy placed him in bed in the hospital, and reduced the fracture by pulling the two broken pieces of the humerus apart to overcome the overlapping, and then adjusting the broken ends in apposition to each other so that they might grow together again. The arm was encased in a plaster cast and a system of wires and weights and pulleys were attached so that a pull was exerted on the arm. After some time spent in the hospital, the boy was sent home with his arm in a plaster cast, but still under the supervision of the defendants. The first physician who treated him was followed by another, and then by the chief of the clinic. In the words of the court: "All of these doctors were orthopedists."

As time went on there was difficulty in getting the two broken ends of the bone to grow together again. Eventually, a union ensued, but in such manner that the broken ends united at an angle, leaving the bone between the elbow and the shoulder with a crook in it. Also, the plaintiff's arm was one-half inch shorter than it had been before it was broken.

An action for malpractice was commenced, and a verdict was rendered in the sum of \$8,500 against the defendant co-partners, all of whom were physicians and surgeons. On appeal to the district court, the judgment for the plaintiff was affirmed.

On appeal, the sufficiency of the plaintiff's evidence to sustain a finding of negligence on the part of the defendants was questioned, but the court found very meager evidence to be sufficient. A medical expert had testified at the trial on behalf of the plaintiff to the effect that a physician or orthopedic specialist in charge of a case, who failed to have x-ray pictures of plaintiff's arm taken

frequently enough to keep the attending physician advised of the progress of the healing, and who failed to take steps to correct the progress of angulation of the union, and who also failed to maintain traction and a cast on the arm for a sufficient length of time, did not exercise that degree of care and skill required of the average physician practicing in the same locality. The testimony by this one witness was held sufficient to charge the defendants with negligence and a breach of their duty as physicians to exercise the care and skill ordinarily used by physicians practicing in the same community.

In addition, the court ruled that a physician who holds himself out as a specialist in a particular field is bound to possess a higher degree of skill in that field than the ordinary practicing physician. That is to say, in the instant case where the defendants held themselves out as orthopedists specializing in procedures of the type required by the plaintiff, they were bound to meet a higher requirement as to the extent of knowledge and skill they must possess and use than the ordinary practicing physician would be required to meet. More particularly the court ruled that the defendants were bound to have and use the same degree of knowledge and skill ordinarily possessed and used by other specialists and experts of the same type practicing in the particular locality.

LETTERS[†]

Concerning A. B. 257—Impaired Hearing Statute:

CALIFORNIA MEDICAL ASSOCIATION

San Francisco, June 5, 1943.

The Hon. Earl Warren,
Governor of California,
The Capitol,
Sacramento, California.

My dear Governor Warren:

Your attention is called to A. B. 257, which provides for an appropriation of \$26,500 to the California State Department of Public Health, to be utilized in seeking out children in the lower school grades who are suffering from impaired hearing.

The Council of the California Medical Association has approved this measure.

We believe that many, many times the sum involved in the appropriation will come back to California, through increased efficiency, when these children assume their duties as citizens.

In addition, the humanitarian and public welfare phases, through promotion of happier and broader lives, must not be forgotten.

We hope you will deem it to be to the best interests of our people to attach your signature to A. B. 257.

Respectfully submitted,

FOR THE COUNCIL OF THE CALIFORNIA
MEDICAL ASSOCIATION.

Philip K. Gilman, M. D., *Chairman*.

(Editor's Note: A. B. 257 was approved by Governor Warren.)

[†] Editor's Note.—This department of CALIFORNIA AND WESTERN MEDICINE, presenting copy submitted by Hartley F. Peart, Esq., will contain excerpts from the syllabi of recent decisions and analyses of legal points and procedures of interest to the profession.

[†] CALIFORNIA AND WESTERN MEDICINE does not hold itself responsible for views expressed in articles or letters when signed by the author.

Concerning Recalcitrant Tuberculous Patients—Legal Opinion:

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC HEALTH

Dear Doctor Kress:

For your information, I am enclosing a copy of an opinion of City Attorney John J. O'Toole, regarding quarantine or enforced isolation of the recalcitrant tuberculous.

Sincerely,

(Signed) J. C. GEIGER, M. D.,
Director.

Opinion of City Attorney

May 6, 1943.

Subject: In Re: Quarantine or Enforced Isolation of the Recalcitrant Tuberculous.

Dear Sir:

I have your letter under date of April 29 reading as follows:

"The following is taken from the California State Department of Public Health Report to Governor's Council:

"Enforced Isolation of the Recalcitrant Tuberculous.

"On March 20, fifty superintendents of tuberculosis sanatoria, district attorneys, social workers and health officers attended a conference on the enforced isolation of the recalcitrant tuberculous in the Los Angeles office of the California State Department of Public Health. Many difficulties related to the problem were clarified during the five hours of discussion, particularly the power of the local health officer and his key position in the enforcement of isolation of the recalcitrant infectious tuberculous. While the officials in attendance upon the conference represented a wide diversity of interests, there was general agreement that action must be taken to prevent the continued contact of recalcitrant infectious tuberculosis cases with individuals who may not be immune to this disease."

"Please advise what action we may take in cases of this type."

Opinion

The matters mentioned in the Governor's report are covered by the provisions of Articles 1, 2, 3 and 4 of the Health and Safety Code. Your attention is respectfully directed to the following sections:

"Sec. 2571. Diseases to be reported. Protective measures.

"The following shall be properly reported in writing to the State department by the health officer:

"Chickenpox, erysipelas, pneumonia, epilepsy, uncinariasis or hookworm, epidemic cerebrospinal meningitis, trachoma, whooping cough, mumps, dengue, dysentery, tuberculosis, typhoid fever, tetanus, malaria, leprosy, measles, German measles, glanders and anthrax affecting human beings, rabies, pellagra, beriberi, syphilis, gonococcus infection, poliomyelitis, and any other disease which appears to have become epidemic.

"This list of reportable diseases may be changed at any time by the State department.

"The diseases enumerated in this section, and such others as from time to time may be added by the State department, shall be quarantined whenever in the opinion of the State department that action is necessary for the protection of the public health, and shall be isolated whenever in the opinion of the department or health officer, isolation is necessary for the protection of the public health. (Enacted 1939; amended by later act passed at the same session, Stats. 1939, Ch. 375.)"

"Sec. 2600. Noncompliance with department rules, etc.

"Any person who, after notice, violates, or who, upon the demand of any health officer, refuses or neglects to conform to, any rules, order, or regulation prescribed by the State department respecting a quarantine or disinfection of persons, animals, things, or places, is guilty of a misdemeanor. (Enacted, 1939.)"

"Sec. 2601. Exposure of self or another to communicable disease.

"Except in the case of the removal of an afflicted person in a manner the least dangerous to the public health, any person afflicted with any contagious, infectious, or communicable disease who wilfully exposes himself; and any person who wilfully exposes another person afflicted with such disease in any public place or thoroughfare is guilty of a misdemeanor. (Enacted 1939.)"

"Sec. 2602. Other violations: Separate offenses. Any person who violates any section in Article 3 of this chapter, with the exception of 2555, is guilty of a misdemeanor, punishable by a fine of not less than twenty-five nor more

than five hundred dollars, or by imprisonment for a term of not more than ninety days, or by both. He is guilty of a separate offense for each day that the violation continues. (Enacted 1939)."

You will note that Section 2571 provides that the communicable diseases mentioned in the section must be reported to the State Department of Health by the health officer. The last provision of the section provides that these diseases shall be quarantined "whenever in the opinion of the State department that action is necessary for the protection of public health."

Section 2601 makes the violation of the provisions of that section a misdemeanor. Therefore, it appears to me that, if there are persons within your jurisdiction who are suffering from recalcitrant tuberculosis in an infectious stage, such cases should be reported to the State Department of Health, and if the last mentioned department believes they should be isolated or quarantined, the department may authorize you to make the quarantine, and the breaking of the quarantine may be punished as a misdemeanor on application to the District Attorney.

Very truly yours,

(Signed) JNO. J. O'TOOLE,
City Attorney.

(Ed. Note: On this subject, see articles in the Tuberculosis Supplement of this issue.)

Concerning Aid Rendered by the California Medical Association in Support of Conservation of Hearing Laws:

(COPY)

CALIFORNIA COMMITTEE FOR HARD-OF-HEARING
CHILDREN

Santa Monica, California,

June 12, 1943.

Dear Doctor Kress:

I desire to express my sincere appreciation to you and to all of your officers and members who so kindly supported A. B. 257 and A. B. 1222, which the Governor signed.

I believe the medical profession in California can make a real contribution in the proposed conservation of hearing program. The otologists will take the lead, as it lies within their special field, but I realize fully that all the physicians who deal with children come into the picture. So do the scientists who are attacking the so-called "common colds," prolific generator of respiratory infections which often start hearing troubles. . . .

The next time I am in San Francisco I shall make it a point to see you. . . .

1303 Georgina Avenue.

Sincerely yours,

CONRAD G. SELVIG,
Secretary-Treasurer.

Concerning a Letter of Appreciation for Services Graciously Rendered by a Physician:

(COPY)

U. S. NAVY RECRUITING STATION
Federal Office Building, Civic Center
San Francisco, California

15 May, 1943.

Lloyd Bryan, M. D.
A. Justin Williams, M. D.
450 Sutter Street
San Francisco, California.

Gentlemen:

We find that during the past year you have made, without charge to us, in the neighborhood of one thousand x-ray films.

The major portion of these films have been chest pictures requiring large-sized films, so we fully appreciate the time and expense you have been put to in doing this work.

We hope that this letter will, in some small measure, express our appreciation and gratitude to you for this fine contribution toward the war effort.

In naval parlance, you have proved to be shipmates of the highest order, so the officers and crew of this station join me in wishing you and yours a happy and prosperous cruise.

(Signed) T. T. KING,
Lieut. Comdr. D-V(S), USNR,
Officer in Charge.

Concerning American Board of Otolaryngology: Midwinter E. E. N. T. Course in Los Angeles:

Los Angeles, June 29, 1943.

To the Editor:—The American Board of Otolaryngology will conduct an examination in Los Angeles on February 2 to 5, 1944, following the meeting of the Midwinter Clinical Course of the Research Study Club, provided at least fifty applicants are accepted. It is urgently requested that applications be submitted immediately so that the Board may plan accordingly. Address all applications to Dean M. Lierle, M.D., Secretary-Treasurer, University Hospital, Iowa City, Iowa.

The Thirteenth Annual Midwinter Postgraduate Clinical Course of the Research Study Club of Los Angeles will be given from January 17 to 28, inclusive, 1944, to be succeeded by the special course in Applied Anatomy and Cadaver Surgery of the Head and Neck, to follow immediately after the Clinical Course. Both courses afford an unusual opportunity for members applying to the American Board of Otolaryngology to obtain an up-to-the-minute refresher course just prior to their examination. . . .

1147 Roosevelt Building,

Yours very sincerely,

(Signed) HAROLD F. WHALMAN, M. D.

Concerning a Letter of Appreciation to the California Medical Association:

(COPY)

THE STANFORD UNIVERSITY LIBRARIES
STANFORD UNIVERSITY
CALIFORNIA

June 19, 1943.

Dear Mr. Hunton:

In acknowledging your letter of June 18 and the check for \$1,125, representing the 1943 contribution of the California Medical Association to our Lane Medical Library, I want to tell the Association how much this assistance means to us at a time when we are under pressure not only to provide our usual service, but to assist the medical officers of our Army and Navy who are making active use of our facilities.

We will make every effort to continue to merit your support.

Cordially yours,

(Signed) NATHAN VAN PATTEN,
Director.

Concerning California Medical Association Donations to California Libraries:

LIBRARY OF THE
LOS ANGELES COUNTY MEDICAL ASSOCIATION
Los Angeles, California,
June 23, 1943.

To the California Medical Association Council:

We wish to acknowledge and thank the Council for the check of the California Medical Association in the sum of \$1,125 as the 1943 contribution of the Association to the Library.

We have recently had numerous requests from medical men outside the County, but within the State, as well as from some in service outside the State. It has been a source of great interest and gratification to serve these men, and the check received each year from the California Medical Association helps make this service possible.

Again thanking you for your generous contribution,

Sincerely,

(Signed) HAZEL M. GRANGER,
Librarian.

C.M.A. Medical-Nursing Liaison Committee

CALIFORNIA MEDICAL ASSOCIATION

May 28, 1943.

Association of California Hospitals

1182 Market Street

San Francisco, California

Attention: Mr. Kenneth Williamson, Executive Secretary
Dear Mr. Williamson:

Yesterday I read to you a letter addressed to Captain Philip K. Gilman, Chairman of the C.M.A. Council, and received from Councilor R. Stanley Kneeshaw, Medico-Dental Building, San Jose.

The letter referred to the problem of short-handedness in nursing personnel which has arisen at the San Jose Hospital.

You informed me that your Association had appointed a liaison committee to work with the State Nursing groups, and that this newly appointed committee would probably hold a meeting some time during the coming week.

Council Chairman Gilman has also appointed a special committee to represent the Council of the California Medical Association, the committee to consist of the following:

R. Stanley Kneeshaw, M.D., Medico-Dental Bldg., San Jose, Chairman.

L. A. Alesen, M.D., 1925 Wilshire Boulevard, Los Angeles.

Edwin L. Bruck, M.D., 384 Post St., San Francisco.

It is possible that when your own committee meets, it may wish to communicate with Dr. Kneeshaw to learn whether some member of his committee may also sit in at the conference.

We shall be happy to be kept informed of any new developments which may be pertinent to medical practice.

Cordially yours,

GEORGE H. KRESS, M.D.,
Secretary-Editor.

MEDICAL EPONYM

Skodaic Tympany

This is described by Dr. Joseph Skoda (1805-1881), chief physician of the Vienna General Hospital, in his book, *Abhandlung über Perkussion und Auskultation [Treatise on Percussion and Auscultation]* (Vienna, 1839). A portion of the translation from the third edition (Vienna, 1844), follows:

"It would seem contrary to the laws of physics that a lung containing a small amount of air should give a tympanitic note, whereas the same lung with an increased air content is not tympanitic. The fact, however, is well established and is borne out not only by experiments made on the cadaver, which will be referred to later, but by the constant finding that in the presence of exudate in the thoracic cavity, which entirely compresses the lower part of the lung and markedly reduces the volume of the upper lobe, the percussion note is distinctly tympanitic over the upper part of the thorax."—R. W. B., in *New England Journal of Medicine*.

TWENTY-FIVE YEARS AGO†

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. XVI, No. 7, July, 1918

EXCERPTS FROM EDITORIAL NOTES

This Means Business—Read It!—There was described in a recent issue of the JOURNAL [Year 1918] the formation of the Volunteer Medical Service Corps. This Corps is designed to furnish an emergency medical organization, auxiliary to the medical establishments of the Army and Navy, for such military and civic duty as is not otherwise provided for. Members are to be those physicians who would be accepted for the Medical Reserve Corps, were it not for physical disability, over military age (55), essential public need, essential institutional need, or dependents. Women physicians are eligible. Members must be licensed graduates in medicine, and must apply for membership on regular blanks, which will be furnished by county secretaries or from the JOURNAL office. . . .

We have urged every doctor to make the need for Army and Navy medical officers a first claim on their attention. That the State of California is well represented by the enrollment thus far is shown by the following table:

County	Registers about	Number in service	Percentage
Alameda	528	51	9.6
Contra Costa	47	9	19.0
Los Angeles	1549	220	14.2
Orange	86	6	6.9
Sacramento	165	14	8.5
San Diego	74	38	51.3
San Joaquin	100	7	7.0
Santa Barbara	60	8	13.3
Santa Clara	170	19	11.1

Not the absolute figures, but the percentages are of special interest here. How is your county represented? If it is not equal to the percentage allotment for the entire State, which means an average of 20 per cent for each county, are you to blame? Why should not your county have its just and equitable proportion of medical officers? Why should not every county go beyond its quota? If your county percentage is below the allotment, why are you not enrolled in the Medical Reserve Corps?

But suppose you are not in uniform and are not commissioned in either the Army or the Navy Reserves, and you have a legitimate reason. And you are able and willing to do what you can in your own location, even though circumstances make it impossible for you to accept the call to active duty. Then apply at once for enrollment in the Volunteer Medical Service Corps.

Legal Aspects of Social Insurance.—An interesting meeting of the San Francisco County Medical Society was held June 11, 1918. The President, Dr. J. H. Graves, presided and in a few words introduced the subject of the evening, "Social Health Insurance," in which he recounted the appointment of the Social Insurance Commission of California to investigate the problem, its activities since its appointment by the Governor, and the general scope of its investigations.

Mr. Hartley F. Peart, General Attorney for the State Medical Society, then delivered a brief address on "Legal Aspects of Health Insurance." . . .

(Continued in Front Advertising Section, Page 14)

† This column strives to mirror the work and aims of colleagues who bore the brunt of Association activities some twenty-five years ago. It is hoped that such presentation will be of interest to both old and new members.

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA†

By F. N. SCATENA, M. D.

Secretary-Treasurer

Board Proceedings

"Results of examinations given candidates for licenses for physicians and surgeons and chiropodists were announced in Sacramento yesterday by Dr. Frederick N. Scatena, secretary-treasurer of the State Medical Board . . . 198 successful physician and surgeon candidates . . . took the tests in Los Angeles recently. . . ." (San Francisco Examiner, May 17, 1943.)

News

"Retirement of Dr. Seeley G. Mudd from the deanship of the school of medicine of the University of Southern California was announced yesterday by President Rufus B. von KleinSmid, together with the appointment of Doctor Mudd to the professorship of experimental medicine. He will be succeeded by Dr. Burrell O. Raulston, professor of medicine and associate dean of the Southern California school." Los Angeles Examiner, May 16, 1943.)

"Of interest to his large circle of friends was the announcement made that last Thursday evening, Dr. R. R. Root was among a group of physicians who received traditional gold-headed canes in recognition of their long service in the Riverside County Medical Association. . . ." (Riverside Enterprise, May 20, 1943.)

"A total of 726 persons in April used the 'round the clock' telephone service of the San Francisco County Medical Society to obtain the services of a physician in an emergency, it was announced today. This was an increase of nearly two hundred over March, and indicates an increasing influx of newcomers to the city, the Society believes. . . ." San Francisco News, May 7, 1943.)

"Dr. Minnie L. Maffett of Dallas, Texas, president of The National Federation of Business and Professional Women's Clubs, Inc., recently prepared a statement asking for military rank and status for women doctors in the armed forces. The statement was presented at a public hearing of the subcommittee of the House Military Affairs committee in Washington recently. . . ." (Orange News, May 4, 1943.)

"Small cards may some day be the means of saving the lives of at least some of San Francisco's 4,500 diabetics, in case of an air raid, it was announced today by Henry Gibbons, III, M. D., Chief, Emergency Medical Service. The identification cards, 2½ x 3½ inches, with a code number, indicate diets and amounts for the patient along with other personal data. The card will also give the insulin record for the person. This has been done so that in case of injury the diabetic's condition will be known at a glance to attending physicians who can then prescribe proper medicine and diets. The cards are obtainable from doctors and clinics." (San Francisco News, May 10, 1943.)

(Continued in Back Advertising Section, Page 28)

† The office addresses of the California State Board of Medical Examiners are printed in the roster on advertising page 6. News items are submitted by the Secretary of the Board.